This document gives pertinent inform on concerning the reissuance of the VPDI ermit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.0006 MGD wastewater treatment plant. This permit action consists of updating the WQS and updating boilerplate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-05 et seq.

1.	Facility Name and Mailing Address:	Schwartz STP 880 S. Pickett Street Alexandria, VA 22304	SIC Code :	4952
	Facility Location:	696 Marlborough Point Road Stafford, VA 22554	County:	Stafford
	Facility Contact Name:	Richard Schwartz	Telephone Number:	(703) 823-5554
2.	Permit No.:	VA0073121	Expiration Date of previous permit:	June 1, 2008
	Other VPDES Permits associated with this facility:		N/A	
	Other Permits associated with this facility:		N/A	
	E2/E3/E4 Status:	N/A		
3.	Owner Name:	Richard Schwartz		
	Owner Contact/Title:	Richard Schwartz/Owner	Telephone Number:	(703) 823-5554
4.	Application Complete Date:	January 4, 2008		
	Permit Drafted By:	Joan C. Crowther	Date Drafted:	April 22, 2008
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	April 25, 2008
	Public Comment Period :	Start Date: April 29, 2008	End Date:	May 29, 2008

5. Receiving Waters Information: See Attachment 1 for the Flow Frequency Determination

Receiving Stream Name :	Potomac Creek		
Drainage Area at Outfall:	N/A - Tidal	River Mile:	0.02
Stream Basin:	Potomac River	Subbasin:	Potomac River
Section:	3	Stream Class:	II
Special Standards:	b	Waterbody ID:	VAN-A29E
7Q10 Low Flow:	N/A	7Q10 High Flow:	N/A
1Q10 Low Flow:	N/A	1Q10 High Flow:	N/A
Harmonic Mean Flow:	N/A	30Q5 Flow:	N/A
303(d) Listed:	Yes	30Q10 Flow:	N/A
TMDL Approved:	Yes	Date TMDL Approved:	10/30/07

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

- ✓ State Water Control Law
- ✓ Clean Water Act
- ✓ VPDES Permit Regulation
- ✓ EPA NPDES Regulation
- ✓ EPA Guidelines
- ✓ Water Quality Standards
- ✓ Potomac Embayment Policy (both 1971 and 1997)

7. Licensed Operator Requirements: Class IV

8. Reliability Class: Class I

9. Permit Characterization:

✓	Private		Effluent Limited		Possible Interstate Effect
	Federal	✓	Water Quality Limited		Compliance Schedule Required
	State		Toxics Monitoring Program Required		Interim Limits in Permit
	POTW		Pretreatment Program Required		Interim Limits in Other Document
✓	TMDL				

*Historical Note - Development of the Policy for the Potomac River Embayments (9 VAC 25-415-10):

The State Water Control Board adopted the Potomac Embayment Standards (PES) in 1971 to address serious nutrient enrichment problems evident in the Virginia embayments and Potomac River at the time. These standards applied to sewage treatment plants discharging into Potomac River embayments in Virginia and for expansions of existing plants discharging into the non-tidal tributaries of these embayments. The standards were actually effluent limitations for BOD, unoxidized nitrogen, total phosphorus, and total nitrogen:

Parameter	**PES Standard (monthly average)**
BOD_5	3 mg/l
Unoxidized Nitrogen	1 mg/l (April – October)
Total Phosphorus	0.2 mg/l
Total Nitrogen	8 mg/l (when technology is available)

Questions also arose due to the fact that the PES were blanket effluent limitations that applied equally to different bodies of water. Therefore, in 1978, the State Water Control Board committed to reevaluate the PES. In 1984, a major milestone was reached when the Virginia Institute of Marine Science (VIMS) completed state-of-the-art models for each of the embayments. The Board then selected the Northern Virginia Planning District Commission (NVPDC) to conduct wasteload allocation studies of the Virginia embayments using the VIMS models. In 1988, these studies were completed and effluent limits that would protect the embayments and the main stem of the Potomac River were developed for each major facility. The studies and all pertinent information are on file in the DEQ Northern Region Office.

Since the PES had not been amended or repealed, VPDES permits had included the PES standards as effluent limits. When the Schwartz STP was first issued a VPDES permit, these PES were in effect. Therefore, this VPDES permit and the plant's design plans and specifications were based on these standards. The sewage treatment plant went on-line in 1995-1996.

In 1991 and 1992, several Northern Virginia jurisdictions with embayment treatment plants submitted a petition to the Board requesting that the Board address the results of the VIMS/NVPDC studies. Their petition requested revised effluent limitations and a defined modeling process for determining effluent limitations.

The recommendations in the petition were designed to protect the extra sensitive nature of the embayments along with the Potomac River that have become a popular recreational resource during recent years. The petition included requirements more stringent than would be applied using the results of the modeling/allocation work conducted in the 1980s. With the inherent uncertainty of modeling, the petitioners question whether the results of modeling would provide sufficient protection for the embayments. By this petition, the local governments asked for continued special protection for the embayments based upon a management approach that uses stringent effluent limits. They believe this approach has proven successful over the past two decades. In addition, the petition included a modeling process that will be used to determine if more stringent limits are needed in the future due to increased wastewater discharges.

The State Water Control Board adopted the petition, with revisions, as a regulation on September 12, 1996. The regulation is entitled *Policy for the Potomac River Embayments* (9 VAC25-415-10). On the same date, the Board repealed the old

PES. The new regulation became effective on April 3, 1997, and contains the following effluent limits:

Parameter	PES Standard (monthly average)
$cBOD_5$	5 mg/l
TSS	6 mg/l
Total Phosphorus	0.18 mg/l
Ammonia as Nitrogen	1.0 mg/l

Since we can not allow effluent limitations to be relaxed if the only reason is a regulatory change that is not based on water quality, the 1971 PES effluent limitations (BOD_5 and TKN) will remain in effect for this permit reissuance. And since the Total Phosphorus effluent limitation established in the 1997 revision is more stringent than the 1971 PES total phosphorus effluent limitation, the more stringent phosphorus limit of 0.18 mg/l will be required.

10. Wastewater Sources and Treatment Description:

This facility is a privately owned wastewater treatment plant that serves one single family home with a design flow of 0.0006 MGD. The wastewater treatment plant consists of two 1,000 gallon septic tanks, a dosing tank with submersible pump, biological filtration via re-circulating sand filters, one 500 gallon sedimentation/filtration tank that includes chemical addition of aluminum salts followed by tablet chlorination, chlorination tank, tablet dechlorination, and post aeration via concrete step aeration prior to discharging into Potomac Creek.

See Attachment 2 for a facility schematic/diagram.

TABLE 1 – Outfall Description

Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.0006 MGD	38° 21' 15" N 77° 17' 18" W
See Attachment 3 for (USGS Passapatanzy, DEQ #182D) topographic map.				

11. Sludge Treatment and Disposal Methods:

When needed the sludge from the septic tanks and sedimentation tank is pumped out and transported to Aquia AWT (VA0060968) for disposal.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge:

TABLE 2 - Ambient Water Quality Monitoring Stations

Station ID	Station Description
1aPOM000.60	This tidal DEQ ambient water quality monitoring station is located at the Red buoy #4 approximately 0.58 rivermile upstream from Schwartz's discharge point. The purpose of this station is to provide more water quality data within the Virginia Potomac Embayments. It is currently an active station and has been sampled since March 2007.
1aPOM002.41	This tidal DEQ ambient water quality monitoring station is located at NW of marker #8 of Potomac Creek and has been sampled since July 1979. This station is approximately 1.8 rivermiles upstream from the wastewater treatment facility's discharge point. Because this ambient water quality data has been noted by DEQ that it should not to be used as representative data, this station's data was not used to determine the 90th percentile for pH and temperature or the average hardness.

TABLE 2 - Ambient Water Quality Monitoring Stations (continued)	
Station ID	**Station Description**
1aPOM006.72	This DEQ ambient water quality monitoring station is located at the Rt. 608 on Potomac Creek and was sampled from September 1974 until February 2006. The station is located approximately 6.7 rivermiles upstream from Schwartz' discharge point. This station is not currently sampled as it is considered a watershed station and is on a 6-year rotation schedule. It may be a valid station in 2010 if another station is not determined more appropriate.

There are no intakes or other discharges in the vicinity of this discharge.

13. Material Storage:

TABLE 3 - Material Storage		
Materials Description	**Volume Stored**	**Spill/Stormwater Prevention Measures**
Chlorine Tablets	> 45 lbs	Stored in the garage
Dechlor Tablets	> 45 lbs	Stored in the garage

14. Site Inspection:

Performed by Beth Biller and Joan Crowther on August 28, 2007. (See Attachment 4)

15. Receiving Stream Water Quality and Water Quality Standards:

a) Ambient Water Quality Data

For the 2004 assessment, the fish consumption impairment for Potomac Creek was expanded from the 2002 assessment to include all tidal waters of Potomac Creek. This segment replaces segment VAN-A29E_POM01A02 from the 2002 cycle that was delineated as 0.62 square miles.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 4/19/99 and modified 12/13/04, limits consumption of American eel, bullhead catfish, channel catfish less than eighteen inches long, largemouth bass, anadromous (coastal) striped bass, sunfish species, smallmouth bass, white catfish, white perch, gizzard shad, and yellow perch consumption to no more than two meals per month. The advisory also restricts the consumption of carp and channel catfish greater than eighteen inches long. The affected area includes the tidal portions of the following tributaries and embayments from the I-395 bridge (above the Woodrow Wilson Bridge) to the Potomac River Bridge at Route 301: Fourmile Run, Hunting Creek, Little Hunting Creek, Pohick Creek, Accotink Creek, Occoquan River, Neabsco Creek, Powell Creek, Quantico Creek, Chopawamsic Creek, Aquia Creek, and Potomac Creek. Additionally, exceedance of the water quality criterion based tissue value (TV) of 54 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in fish tissue were recorded in four species in samples collected in 2000 (largemouth bass, carp, channel catfish and American eel) at station 1APOM001.04. Finally, the risk-based tissue screening value (TSV) for arsenic (72 ppb) was exceeded in one species (American eel) of fish tissue samples collected 2000 at the same station, noted by an observed effect.

An open water assessment of dissolved oxygen values during the summer season between 2002 and 2004 showed that the POTOH was not supporting. The segment was 2.29 percent above CFD. The segment is considered impaired for the aquatic life use.

The recreation and wildlife uses were not assessed.

See 2008 Permit Reissuance file for the January 4, 2008 Planning Statement received March 3, 2008.

b) Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260 (360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Potomac Creek, is located within Section 3 of the Potomac River Basin, and classified as a Class II water.

Class II tidal waters in the Chesapeake Bay and it tidal tributaries must meet dissolved oxygen concentrations as specified in 9 VAC 25-260-185 and maintain a pH of 6.0-9.0 standard units as specified in 9 VAC 25-260-50. In the Northern Virginia area, Class II waters must meet the Migratory Fish Spawning and Nursery Designated Use from February 1 through May 31. For the remainder of the year, these tidal waters must meet the Open Water use. The applicable dissolved oxygen concentrations are presented Attachment 5.

Attachment 6 details other water quality criteria applicable to the receiving stream.

Ammonia:

Staff has evaluated the receiving stream ambient monitoring data that was collected at 1aPOM000.06 (the Potomac Embayment water quality monitoring station) established in March 2007. Five water quality samples were collected and analyzed. Using this water quality monitoring data, the 90th percentile for pH and temperature is 8.7 SU and 26.5 °C, respectively. The ammonia chronic toxicity is limiting parameter resulting in an effluent monthly average of 14.3 mg/l. The same ammonia effluent monthly average limitation results if just the water quality monitoring data for March 2007 is used to determine the "winter" the 90th percentile for pH (8.7 SU) and temperature (8.5° C). See Attachment 7.

Metals Criteria:

There is no valid hardness data for this facility or for Potomac Creek. Staff guidance suggests using a default hardness value of 50 mg/l $CaCO_3$ for streams east of the Blue Ridge.

Bacteria Criteria:

The Virginia Water Quality Standards (9 VAC 25-260-170 B.) states sewage discharges shall be disinfected to achieve the following criteria:

1) Enterococci bacteria per 100 ml of water shall not exceed the following:

	Geometric Mean[1]	Single Sample Maximum
Saltwater[and Transition Zone[2]]	35	104

[1]For two or more samples [taken during any calendar month].
[2]See 9 VAC 25-260-140 C for fresh[water] and transition zone delineation

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Potomac Creek, is located within Section 3 of the Potomac River Basin. This section has been designated with a special standard of b.

Special Standard "b" (Potomac Embayment Standards) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. "Policy for the Potomac Embayments" (9 VAC 25-415 *et.seq.*- effective April 3, 1997) controls point source discharges of conventional pollutants into the Virginia embayment waters of the

Potomac River, and their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 bridge in King George County. Please see the "Historical Note" on Page two of the Fact Sheet to understand how the Potomac Embayment Standards have affected the permit effluent limitations.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge. The bald eagle (*Haliaeetus leucocephalus)*, a state threatened species was identified within a 2 mile radius of the discharge. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

The Potomac Creek at the point of discharge is within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use.

See Attachment 7 for the results of the Virginia DGIF Fish and Wildlife Information System Database.

In accordance with a Memorandum of Understanding between DGIF, DCR, and DEQ designated draft permits are to be coordinated with DGIF and DCR. Schwartz Sewage Treatment Plant was one of these permits. On May 7, 2008, the coordination form was e-mailed to each agency. On May 13, 2008, DGIF responded with no comments since this is an existing wastewater treatment plant. On May 22, 2008, DCR responded stating that they do not anticipate that this project will adversely impact these natural heritage resources. They further state that under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and DCR, DCR presents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. DCR states that the current activity will not affect any documented state-listed plants or insects.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1. The Tier 1 designation was established during this permit reissuance due to the tidal marsh's flow variability and past dissolved oxygen water quality violations. See 2008 Permit Reissuance File for the 2006 305(b) "Appendix A – List of Impaired (Category 5) Waters in 2006"page 130 printout. The Tier I designation was established during the 2003 permit reissuance cycle; however, no explanation was included in the 2003 permit fact sheet for this designation. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development :

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. This wastewater treatment plant discharges into a tidal marsh. In

accordance with the Virginia Water Quality Standards, 9 VAC 25-260-20.B.4, no mixing zones shall be allowed for effluents that discharge to marshes; therefore, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:

Effluent data obtained from DEQ compliance inspection and the facility's DMRs have been reviewed and determined to be suitable for evaluation. Please see Attachment 8 for a summary of effluent data.

The following pollutants require a wasteload allocation analysis: ammonia (November through March) and total residual chlorine (TRC).

b) Mixing Zones and Wasteload Allocations (WLAs):

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

In accordance with the Water Quality Standards (9 VAC 25-260-20.B.4), "Mixing zones shall not be allowed by the board for effluent discharged to wetlands, swamps, marshes, lakes, or ponds." Since this effluent discharges into a tidal marsh, the water segment receiving the discharge via Outfall 001 is considered to have no mixing zone. As such, the WLA is equal to the C_o.

c) Effluent Limitations Toxic Pollutants, Outfall 001 –

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N/TKN:

The TKN effluent limitation for April 1st through October 31st (1.0 mg/l) was established by the 1971 PES. The staff re-evaluated pH and temperature using the ambient water quality monitoring data collected at the Potomac Creek (1aPOT000.60) station to determine if the ammonia effluent limitations

for the period of November 1st through March 31st were still appropriate. This evaluation shown that the ammonia effluent limitation could be relaxed to 14.3 mg/l; however, because the facility has demonstrated that the current 4.3 mg/l ammonia effluent limitation can be complied with, the more stringent ammonia effluent limitation will remain in the permit. (See Attachment 10 for ammonia calculation.)

2) Total Residual Chlorine (TRC):

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC by maintaining water quality standards at the end of pipe. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.016 mg/L and a weekly average limit of 0.016 mg/L are proposed for this discharge (see Attachment 10).

3) Metals/Organics:

No limits are needed.

d) Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), biochemical oxygen demand 5-day (BOD_5), total suspended solids (TSS), Total Phosphorus (TP), and pH limitations are proposed.

BOD_5 and TKN (April – October) limitations are based on the 1971 PES effluent limitations.

It is staff's practice to equate the TSS limits with the BOD_5 limits. TSS limits are established to equal BOD_5 limts since the two pollutants are closely related in terms of treatment of domestic sewage.

Total Phosphorus limitations are based on the 1997 "Policy for the Potomac River Embayments" (9 VAC 25-415-40).

D.O. and pH limitations are based on Water Quality Standards (9 VAC 25-260).

Enterococci limitations are in accordance with the Water Quality Standards 9 VAC 25-260-170.

e) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for Flow, BOD_5, Total Suspended Solids, Ammonia (November through March), TKN (April through October) pH, Dissolved Oxygen, Total Residual Chlorine, and Total Phosphorus.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/l), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type established in the permit are in accordance with the VPDES Permit Manual recommendations; however, the frequency of analysis were increase from the VPDES Permit Manual's recommendations due to human health concerns from once per year to quarterly during the 2003 permit reissuance. For this permit reissuance, the sample type and frequency of analysis will continue as the previously issued permit.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:
Design flow is 0.0006MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency[1]	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	EST
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/3M	Grab
BOD_5	5	3.0 mg/l 0.007 kg/d	4.5 mg/l 0.010 kg/d	NA	NA	1/3M	Grab
Total Suspended Solids (TSS)	2	3.0 mg/l 0.007 kg/d	4.5 mg/l 0.010 kg/d	NA	NA	1/3M	Grab
DO	3	NA	NA	6.0 mg/l	NA	1/3M	Grab
TKN (April 1st –October 31st)	5	1.0 mg/l 0.002 kg/d	1.5 mg/l 0.003 kg/d	NA	NA	1/3M	Grab
Ammonia, as N (November 1st – March 31st)	3	4.3 mg/l	4.3 mg/l	NA	NA	1/3M	Grab
Enterococci	3	NA	NA	NA	104 n/100mls	1/3M	Grab
Total Residual Chlorine (after contact tank)	2, 3, 4	NA	NA	1.0 mg/l	NA	1/3M	Grab
Total Residual Chlorine (after dechlorination)	3	0.016 mg/l	0.016 mg/l	NA	NA	1/3M	Grab
Total Phosphorus	6	0.18 mg/l 0.0004 kg/d	0.27 mg/l 0.0006 kg/d	NA	NA	1/3M	Grab

The basis for the limitations codes are:
1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. 1971 - Potomac Embayment Standards
6. 1997 - Policy for the Potomac Embayments – (9 VAC 25-415 *et seq.*)

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/3M = Once every three months.
EST = Estimated.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

[1] The quarterly monitoring periods shall be January through March, April through June, July through September, and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

20. Other Permit Requirements :

a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No quarterly test results for TRC at the exit of the chlorine contact tank shall be <1.0 mg/L with any TRC <0.6 mg/L considered a system failure. Monitoring at numerous STPs has concluded that a TRC residual of 1.0 mg/L is an adequate indicator of compliance with the Enterococci criteria. Enterococci limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

21. Other Special Conditions:

a) 95% Capacity Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of three consecutive month period. The facility is PVOTW.

b) O & M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. By September 2, 2008, the permittee shall submit a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

c) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 D, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.

d) Reliability Class. The Sewage Collection and Treatment Regulation at 9 VAC 25-790 requires sewerage works achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. The facility is required to meet a Reliability Class I.

e) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.

f) TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may to developed and approved for the receiving stream. See Item 26 of the Fact Sheet for more information.

23. Changes to the Permit from the Previously Issued Permit:

a) Special Conditions:

The previous permit reissuance stated that no class operator was required. Due to the sensitivity of the receiving stream (tidal marsh), staff's opinion believes that the facility should be operated by a Class IV operator. Therefore, this requirement has been added to the permit.

The special condition for "Indirect Dischargers" has been removed from this permit since the wastewater treatment plant only serves a single family home. There are no other connections to this system.

The special condition for "Material Handling/Storage has been removed from this permit. The proper chemical handling is addressed in the facility's Operation and Maintenance Manual; therefore, this special condition does not need to be in the permit.

The special condition for "Treatment Works Closure Plan" has been removed from the permit. Since this is owned and operated by the residence owner, there is no need for this special condition to be in the permit. This special condition was written for facilities that are privately owned sewerage systems that treat domestic wastewater generated by private residences and that discharge more than 1,000 gpd and less than 40,000 gpd.

The special condition "Nutrient Enriched Waters Reopener" has been removed from the permit. The permit appropriately addresses nutrients by establishing effluent limitations for TKN, Ammonia, and Total Phosphorus.

b) Monitoring and Effluent Limitations:

The TRC effluent limitation was changed from 0.019 mg/l to 0.016 mg/l due to the recalculation of the WLA.

24. Variances/Alternate Limits or Conditions: None

25. Public Notice Information:

First Public Notice Date: April 29, 2008 Second Public Notice Date: May 6, 2008

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Fredericksburg Satellite Office, 806 Westwood Office Park, Fredericksburg, VA 22401, Telephone No. (540) 899-4506, jccrowther@deq.virginia.gov. See Attachment 11 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may to developed and approved for the receiving stream.

This facility discharges directly to Potomac Creek. The stream segment receiving the effluent is listed for non attainment of PCBs in Part I of the current approved 303(d) list. EPA approved the "Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) Tidal Potomac and Anacostia River Watersheds in the District of Columbia, Maryland, and Virginia on October 30, 2007 for this segment. The significant contributors of PCBs were given a wasteload allocation in the TMDL. However, this facility was not categorized as a significant discharger, thus, was not included in the TMDL.

Special Permit considerations: None

27. Additional Comments:

Previous Board Action(s): There has been no previous board action.

Staff Comments: None

Public Comment: No public comments were received.

EPA Checklist: The checklist can be found in Attachment 12.

Schwartz Sewage Treatment Plant
VPDES Permit No. VA0073121
Table of Contents for Attachments

Attachment 1	Paul E. Herman, Interoffice Memorandum dated February 3, 1998, regarding the Flow Determination for the Schwartz Residence Wastewater Treatment Plant
Attachment 2	Treatment System Schematic/Flow Diagram
Attachment 3	USGS Topographic maps (Passapatanzy 182D) – Site and 1aPOM000.06 Ambient Water Quality Monitoring Station Locations
Attachment 4	Site Inspection performed by Beth Biller and Joan C. Crowther on August 28, 2007; Revised Sampling Inspection Report dated October 23, 2007
Attachment 5	WQS for Dissolved Oxygen Concentration in Open Water
Attachment 6	Water Quality Criteria (Source: OWP Guidance Memo 00-2011; 8/24/00) (Two runs – (1) 90^{th} percentile for pH 8.7 SU and temperature 26°C; (2) 90^{th} percentile for pH 8.7 SU and temperature 8.5° C.)
Attachment 7	1aPOM000.06 (Red Buoy 4) 90^{th} Percentile Data for pH and Temperature dated April 8, 2008
Attachment 8	Virginia DGIF's Fish and Wildlife Information System Data (dated April 7, 2008)
Attachment 9	Effluent Data (April 2001 through October 2007)
Attachment 10	Wasteload Allocations (WLA) Ammonia and Total Residual Chlorine Calculations dated April 8, 2008
Attachment 11	Public Notice
Attachment 12	EPA Checklist

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination
Richard Schwartz Residence - #VA0073121

TO: M. Sue Heddings, NRO

FROM: Paul E. Herman, P.E., WQAP

DATE: February 3, 1998

COPIES: Ron Gregory, Charles Martin, File

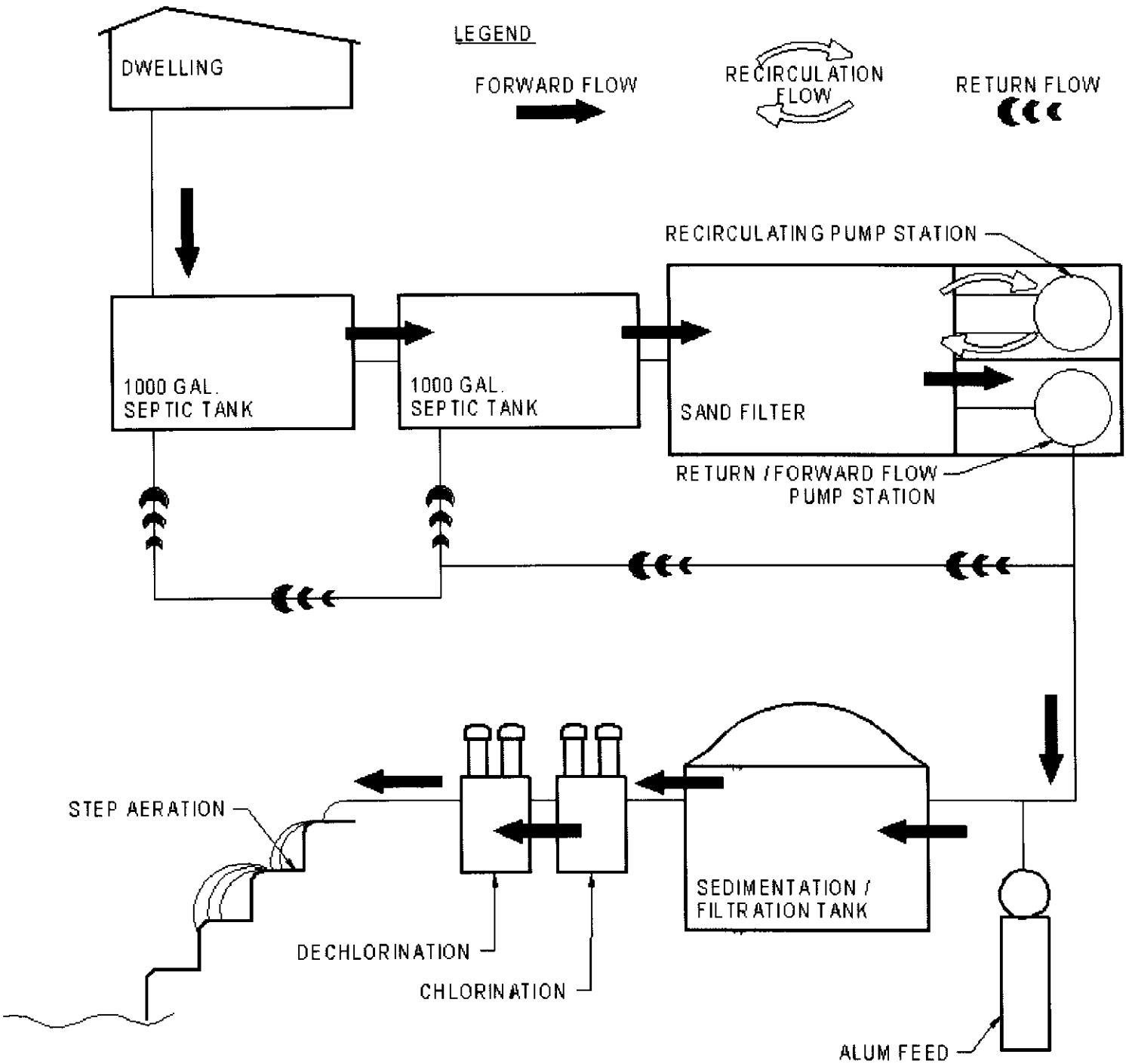
The Richard Schwartz Residence discharges to an unnamed tributary of the Potomac Creek near Belvedere Beach, VA. Flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The values at the discharge point were determined by inspection of the USGS Passapatanzy Quadrangle topographical map which shows the receiving stream is tidal at the discharge point. The flow frequencies for tidal waterbodies are not determinable. Dilution ratios should be used to determine the appropriate effluent limitations for a discharge to tidal waters.

If you have any questions concerning this analysis, please let me know.

Attachment 1

FLOW SCHEMATIC	P.M. BROOKS ASSOCIATES, P.C. ENVIRONMENTAL SERVICES ENGINEERING - PLANNING - ANALYZING - PERMITTING		
RICHARD SCHWARTZ RESIDENCE STAFFORD COUNTY, VIRGINIA	DESIGNED BY PMB	DATE AUG. 28, 2003	DRAWN BY TLK



Attachment 2

Schwartz Sewage Treatment Plant
VA0073121
Outfall 001 and 1aPOM000.06 Locations

Passapatanzy Topographic Map (182D)

Attachment 3

WASTEWATER FACILITY INSPECTION REPORT

PREFACE

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0073121	**June 2, 2003**		**June 1, 2008**

Facility Name	Address	Telephone Number
Schwartz Residence STP	**696 Marlborough Point Road Stafford, VA 22554**	
Owner Name	Address	Telephone Number
Richard Schwartz	**880 South Pickett Street Alexandria, VA 22304**	
Responsible Official	Title	Telephone Number
Richard Schwartz	**Owner**	
Responsible Operator	Operator Cert. Class/number	Telephone Number
Doug Crooks	**Class I / 1909 000367**	**540-373-0380**

TYPE OF FACILITY:

DOMESTIC				**INDUSTRIAL**			
Federal		Major		Major		Primary	
Non-federal	X	Minor	X	Minor		Secondary	

INFLUENT CHARACTERISTICS:	DESIGN:
Flow	**0.0006 MGD**
Population Served	**1 home**
Connections Served	**1 home**

EFFLUENT LIMITS: (mg/L unless specified)

Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
CBOD5		**5.0**	**7.5**	**Total Phosphorus**		**0.18**	**0.27**
pH (s.u.)	**6.0**		**9.0**	**Ammonia**		**1.0**	**1.5**
TSS		**3.0**	**9.0**	**TRC (CCT)**	**1.0**		
E. Coli (#/CML)		**235**		**TRC (effluent)**		**0.016**	**0.016**
DO	**5.0**						

Receiving Stream	**Accokeek Creek, UT**
Basin	**Potomac River**
Discharge Point (LAT)	**38° 26" 48'**
Discharge Point (LONG)	**77° 28" 02'**

Attachment 4

Technical Inspection Summary

Comments/Recommendations for action from current inspection on August 28, 2007:

Facility is neat and well maintained.

Chlorination and dechlorination units should be checked prior to discharge to prevent the reoccurrence of excessive chlorination and incomplete dechlorination.

VPDES NO. **VA0073121**

REV 5/00

DEQ
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date:	**8/28/07**	Date form completed:	**9/11/07**
Inspection by:	**Beth Biller**	Inspection agency:	**DEQ-NRO**
Time spent:	**8 hours**	Announced:	**Yes**
Reviewed by:	**Ed Stuart**	Scheduled:	**Yes**

Present at inspection: **Joan Crowther – DEQ; Doug Crooks – Dabney & Crooks, Inc.**

TYPE OF FACILITY:

Domestic
[ ] Federal [ ] Major
[X] Nonfederal [X] Minor

Industrial
[ ] Major [ ] Primary
[ ] Minor [ ] Secondary

Type of inspection:
[X] Routine
[ ] Compliance/Assistance/Complaint
[ ] Reinspection

Date of last inspection: **None**
Agency: **DEQ-NRO**

Population served: **1 home**

Connections served: **1 home**

Last quarter average: (Effluent) Month/year: **April – June 2007**

No Discharge

Quarter average: (Effluent) **January – March 2007**

Total Phosphorus	**0.014**	**mg/L**	**pH**	**7.3 s.u.**
DO	**10.2**	**mg/L**	**TSS**	**1.5 mg/L**
E. Coli	**<2**	**N/MCL**	**$CBOD_5$**	**3 mg/L**
Ammonia	**2.3**	**mg/L**	**TRC (CCT)**	**1.6 mg/L**
TRC(effluent)	**<QL**			

DATA VERIFIED IN PREFACE [X] Updated [ ] No changes

Has there been any new construction? [ ] Yes [X] No

If yes, were plans and specifications approved? [ ] Yes [ ] No [X] NA

DEQ approval date:

(A) PLANT OPERATION AND MAINTENANCE

1. Class and number of licensed operators:	I – **1**		
2. Hours per day plant is manned:	**see comment**		
3. Describe adequacy of staffing.	[ ] Good	[**X**] Average	[ ] Poor
4. Does the plant have an established program for training personnel?		[**X**] Yes	[ ] No
5. Describe the adequacy of the training program.	[**X**] Good	[ ] Average	[ ] Poor
6. Are preventive maintenance tasks scheduled?	[**X**] Yes	[ ] No	
7. Describe the adequacy of maintenance.	[ ] Good	[**X**] Average	[ ] Poor*
8. Does the plant experience any organic/hydraulic overloading? If yes, identify cause and impact on plant:	[ ] Yes	[**X**] No	
9. Any bypassing since last inspection?	[ ] Yes	[**X**] No	
10. Is the standby electric generator operational?	[ ] Yes	[ ] No*	[**X**] NA
11. Is the STP alarm system operational?	[ ] Yes	[ ] No*	[**X**] NA
12. How often is the standby generator exercised? Power Transfer Switch? Alarm System?	**NA**		
13. When was the cross connection control device last tested on the potable water service?	**NA**		
14. Is sludge being disposed in accordance with the approved sludge disposal plan?	[**X**] Yes	[ ] No	[ ] NA
15. Is septage received by the facility?	[ ] Yes	[**X**] No	
Is septage loading controlled?	[ ] Yes	[**X**] No	
Are records maintained?	[ ] Yes	[**X**] No	
16. Overall appearance of facility:	[**X**] Good	[ ] Average	[ ] Poor

Comments:

2) A grounds keeper resides at the house year round and provides daily observation and maintenance of the STP.

(B) PLANT RECORDS

1. Which of the following records does the plant maintain?

Operational Logs for each unit process	[X] Yes	[ ] No	[ ] NA
Instrument maintenance and calibration	[ ] Yes	[ ] No	[X] NA
Mechanical equipment maintenance	[X] Yes	[ ] No	[ ] NA
Industrial waste contribution (Municipal Facilities)	[ ] Yes	[ ] No	[X] NA

2. What does the operational log contain?

[X] Visual observations	[X] Flow measurement
[ ] Laboratory results	[X] Process adjustments
[ ] Control calculations	[ ] Other (specify)

3. What do the mechanical equipment records contain?

[X] As built plans and specs	[X] Spare parts inventory
[X] Manufacturers instructions	[X] Equipment/parts suppliers
[X] Lubrication schedules	[ ] Other (specify)

4. What do the industrial waste contribution records contain (Municipal Only)?

[ ] Waste characteristics	[ ] Locations and discharge types
[ ] Impact on plant	[ ] Other (specify)

Comments:

5. Which of the following records are kept at the plant and available to personnel?

[X] Equipment maintenance records	[X] Operational Log
[ ] Industrial contributor records	[ ] Instrumentation records
[ ] Sampling and testing records	

6. Records not normally available to plant personnel and their location: **See comment**

7. Were the records reviewed during the inspection? [ ] Yes [X] No

8. Are the records adequate and the O & M Manual current? [X] Yes [ ] No

9. Are the records maintained for the required 3-year time period? [X] Yes [ ] No

Comments:
6) Copies of all records are retained at the Dabney and Crooks offices.

(C) SAMPLING

1. Do sampling locations appear to be capable of providing representative samples? [X] Yes [ ] No*
2. Do sample types correspond to those required by the VPDES permit? [X] Yes [ ] No*
3. Do sampling frequencies correspond to those required by the VPDES permit? [X] Yes [ ] No*
4. Are composite samples collected in proportion to flow? [ ] Yes [ ] No* [X] NA
5. Are composite samples refrigerated during collection? [ ] Yes [ ] No* [X] NA
6. Does plant maintain required records of sampling? [X] Yes [ ] No*
7. Does plant run operational control tests? [X] Yes [ ] No

(D) TESTING

1. Who performs the testing? [ ] Plant [ ] Central Lab [X] Commercial Lab
   Dabney & Crooks Inc.

If plant performs any testing, complete 2-4.

2. What method is used for chlorine analysis? **HACH Pocket II Colorimeter**
3. Does plant appear to have sufficient equipment to perform required tests? [X] Yes [ ] No*
4. Does testing equipment appear to be clean and/or operable? [X] Yes [ ] No*

(E) FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1. Is the production process as described in the permit application? (If no, describe changes in comments)
   [ ] Yes [ ] No [X] NA
2. Do products and production rates correspond as provided in the permit application? (If no, list differences)
   [ ] Yes [ ] No [X] NA
3. Has the State been notified of the changes and their impact on plant effluent? Date:
   [ ] Yes [ ] No* [X] NA

UNIT PROCESS: Septic Tank/Dosing Siphon/Sand Filter

1.	Grease trap preceding septic tank:	[ ] Yes	[ ] No	[X] NA	
2.	When was septic tank last pumped?	**NA**			
3.	Dosing siphon operational (doesn't trickle):	[ ] Yes	[ ] No	[X] NA	
4.	Condition of dosing siphon:	[ ] Good	[ ] Fair	[ ] Poor*	
5.	Number of sand filters:	**1**			
6.	Condition of distribution system including seals:		[X] Good	[ ] Fair	[ ] Poor*
7.	Following problems evident:				
	a. grass on filter	[ ] Yes*	[X] No		
	b. ponding	[ ] Yes*	[X] No		
	c. uneven sand	[ ] Yes*	[X] No		
	d. places of black or septic sand	[ ] Yes*	[X] No		
	e. uneven distribution of influent	[ ] Yes*	[X] No		
	f. solids on surface	[ ] Yes*	[X] No		
8.	Wasted sand disposed of properly?	[X] Yes	[ ] No*		

UNIT PROCESS: Chlorination

1	No. of chlorinators:	**0**	In operation:	**0**
2.	No. of evaporators:	**0**	In operation:	**0**
3.	No. of chlorine contact tanks:	**1**	In operation:	**1**

4. Proper flow distribution between units: [ ] Yes [ ] No* [X] NA

5. How is chlorine introduced into the wastewater?
   [ ] Perforated diffusers
   [ ] Injector with single entry point
   [X] Other: **tablet feeder**

6. Chlorine residual in basin effluent: **not measured**

7. Applied chlorine dosage: **varies**

8. Contact basins adequately baffled: [X] Yes [ ] No*

9. Adequate ventilation:

a. cylinder storage area	[ ] Yes	[ ] No*	[X] NA
b. equipment room	[ ] Yes	[ ] No*	[X] NA

10. Proper safety precautions used: [X] Yes [ ] No*

11. General condition: [X] Good [ ] Fair [ ] Poor

VPDES NO. **VA0073121**

UNIT PROCESS: Dechlorination

1. Chemical used:	[ ] Sulfur Dioxide		[**X**] Bisulfite	[ ] Other
2. No. of sulfonators:	**0**	In operation:	**0**	
3. No. of evaporators:	**0**	In operation:	**0**	
4. No. of chemical feeders:	**1**	In operation:	**1**	
5. No. of contact tanks:	**1**	In operation:	**1**	
6. Proper flow distribution between units:		[ ] Yes	[ ] No*	[**X**] NA
7. How is chemical introduced into the wastewater?				
[ ] Perforated diffusers				
[ ] Injector with single entry point				
[**X**] Other: **tablet feeder**				
8. Control system operational:		[ ] Yes	[ ] No*	[**X**] NA
a. residual analyzers:		[ ] Yes	[ ] No*	
b. system adjusted:		[ ] Automatic	[ ] Manual	[ ] Other:
9. Applied dechlorination dose:		**varies**		
10. Chlorine residual in basin effluent:		**see comment**		
11. Contact basins adequately baffled:		[ ] Yes	[ ] No*	[ ] NA
12. Adequate ventilation:				
a. cylinder storage area:		[ ] Yes	[ ] No*	
b. equipment room:		[ ] Yes	[ ] No*	
13. Proper safety precautions used:		[ ] Yes	[ ] No*	
14. General condition:		[ ] Good	[ ] Fair	[ ] Poor

Comments:

10) 2 different TRC analysis were attempted; each time the powder pillow was added a rust colored precipitate formed and the sample turned bright pink. Examination of the collected samples revealed particulate matter floating in the samples. Onsite discussion with the operator and engineer led to the conclusion that the hot humid temperatures caused the chlorine tablets to swell and the quick flush of water when the discharge occurred caused the tablets to break apart. The dechlorination tablets hardened with the hot humid temperatures and did not have time to dissolve to properly dechlorinate the effluent. All tablets were replaced and the chlorination feeder was adjusted so only one feeder tube contained tablets. Discharge ceased prior to adjustment so no further samples could be collected.

UNIT PROCESS: Post Aeration

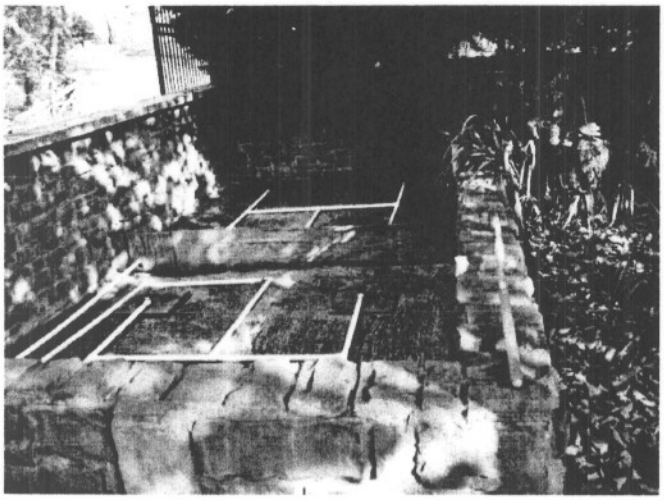
1. Number of units: **1** In operation: **1**
2. Proper flow distribution between units: [ ] Yes [ ] No* [X] NA
3. Evidence of following problems:
   a. dead spots [ ] Yes* [ ] No
   b. excessive foam [ ] Yes* [ ] No
   c. poor aeration [ ] Yes* [ ] No
   d. mechanical equipment failure [ ] Yes* [ ] No [X] NA
4. How is the aerator controlled? [ ] Time clock [ ] Manual [ ] Continuous [X] Other* [ ] NA
5. What is the current operating schedule? **Continuous during discahrge**
6. Step weirs level: [X] Yes [ ] No [ ] NA
7. Effluent D.O. level: **not measured**
8. General condition: [X] Good [ ] Fair [ ] Poor

Comments:

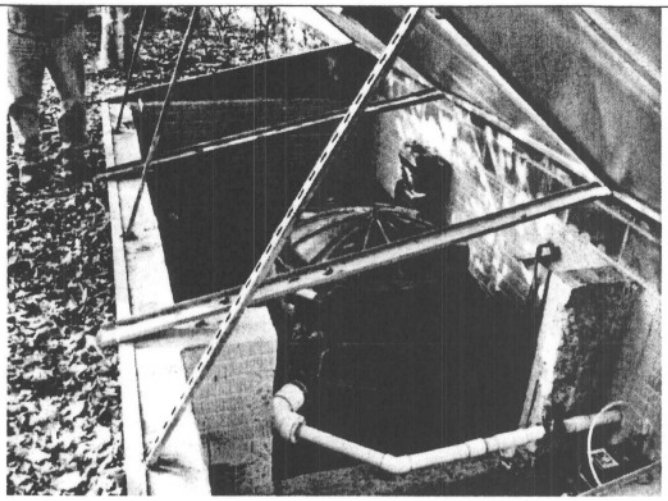
UNIT PROCESS: Effluent/Plant Outfall

1. Type Outfall [X] Shore based [ ] Submerged
2. Type if shore based: [ ] Wingwall [ ] Headwall [ ] Rip Rap [X] Other**
3. Flapper valve: [ ] Yes [X] No [ ] NA
4. Erosion of bank: [ ] Yes [X] No [ ] NA
5. Effluent plume visible? [ ] Yes* [X] No
6. Condition of outfall and supporting structures: [X] Good [ ] Fair [ ] Poor*
7. Final effluent, evidence of following problems:
   a. oil sheen [ ] Yes* [X] No
   b. grease [ ] Yes* [X] No
   c. sludge bar [ ] Yes* [X] No
   d. turbid effluent [ ] Yes* [X] No
   e. visible foam [ ] Yes* [X] No
   f. unusual color [ ] Yes* [X] No

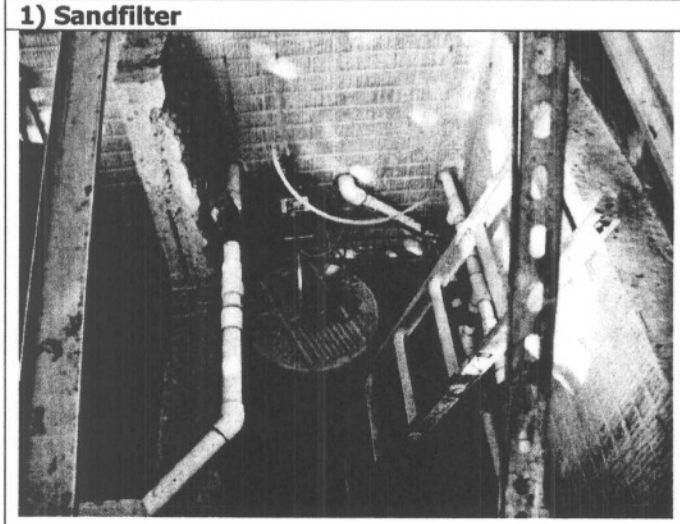
Comments:
2) Effluent flow proceeds down the step cascade unit and into a wetland before reaching the river.
7) A strong chlorine odor was noted in the collected samples.



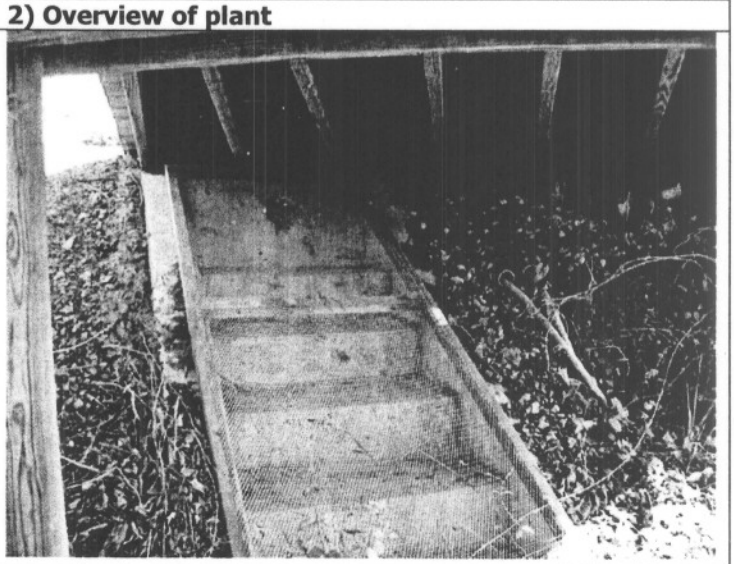
1) Sandfilter



2) Overview of plant



3) Chemical addition and flow meter



4) Outfall - Step aeration to Marshy area (photo taken April 2003)

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN VIRGINIA REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3801
www.deq.virginia.gov

Preston Bryant
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

October 23, 2007

Mr. Richard Schwartz
880 South Pickett Street
Alexandria, VA 22304

Re: Schwartz Residence STP – VA0073121

Dear Mr. Schwartz:

Enclosed is a copy of the REVISED sampling inspection report generated from samples collected on August 28, 2007 while performing a technical inspection at the Schwartz Sewage Treatment Plant (STP).

As discussed in the meeting held at the Department of Environmental Quality – Northern Regional Office on October 19, 2007 the revised report reflects the corrected permit limits and reported values for BOD and CBOD. Please note that upon review both the average and maximum limits were exceeded for the parameter of BOD.

If you have any questions or comments concerning this report, please feel free to call me at the Northern Regional Office at (703) 583-3896 or by e-mail at eabiller@deq.virginia.gov.

Sincerely,

Beth Biller
Environmental Specialist II

cc: Permits / DMR File
Compliance Inspector
Compliance Manager
Compliance Auditor
Doug Crooks – Dabney & Crooks, Inc
Steve Stell - OWCP

Attachment 4

Commonwealth of Virginia
Department of Environmental Quality
Sampling Inspection Report

FACILITY	**Schwartz STP**	PERMIT #	**VA0073121**
TYPE	**Municipal Small**	DATE	**August 28, 2007**
LOCATION	**696 Marlborough Point Road Stafford, VA 22554**	MAILING ADDRESS	**696 Marlborough Point Road Stafford, VA 22554**
OFFICIAL	**Mr. Richard Schwartz**	PHONE #	
OPERATOR	**Mr. Doug Crooks**	PHONE #	**(540) 373-0380**
SAMPLER	**Beth Biller – DEQ NRO**	REVIEWER: **Ed Stuart**	

INSPECTION TYPE / REASON FOR INSPECTION:

Sampling inspection in conjunction with a technical inspection.

DESCRIPTION OF SAMPLE LOCATION(S):

Final effluent outfall #001, located at the bottom of the step cascade.

SAMPLE CONDITIONS:

Grab samples for INUT1, INUT2 and NME16 were collected by Beth Biller - DEQ, tagged, preserved appropriately, and shipped on ice via courier to DCLS for analysis.

SURVEY OBSERVATIONS AND COMMENTS:

Samples were collected at 0915. Strong chlorine smell noticed and particulate matter was observed floating in the sample.

ANALYTE	(UNITS)	PERMIT LIMITS:			SAMPLE RESULTS:
		Minimum	Average	Maximum	
Ammonia as Nitrogen	mg/L		**1.0**	**1.5**	**0.04**
Nitrate	mg/L				**22.8**
Nitrite	mg/L				**<0.01**
Nitrogen, Total Kjeldahl	mg/L				**0.2**
Nitrogen, Total	mg/L				**23.01**
Phosphorus, Total	mg/L		**0.18**	**0.27**	**8.5**
Chloride	mg/L				**216**
Sulfate	mg/L				**168**
Lab pH	su	**6.0**		**9.0**	**7.93**
Alkalinity / Acidity	mg/L				**159**
Conductivity	µmhos/cm				**1461**
Turbidity	NTU				**46.5**
$cBOD_5$	mg/L		~~**5.0**~~	~~**7.5**~~	**6**
BOD_5	mg/L		**3.0**	**4.5**	**10**
Suspended Solids, Fixed	mg/L				**19**
Suspended Solids, Total	mg/L		**3.0**	**9.0**	**24**
Suspended Solids, Volatile	mg/L				**5**
Total Solids	mg/L				**1056**
Total Dissolved Solids	mg/L				**960**
Volatile Solids	mg/L				**250**
Fixed Solids	mg/L				**806**

FIELD TESTS RESULTS					
TRC - Contact	mg/L	**1.0**			
TRC - Effluent	mg/L		**0.016**	**0.016**	**>5.0**
Dissolved Oxygen	mg/L	**5.0**			
pH	Std. U.	**6.0**		**9.0**	**8.06**
Temperature	°C				**25.7**

Dissolved Oxygen Criteria (9 VAC 25-260-185)

Designated Use	Criteria Concentration/Duration	Temporal Application
Migratory fish spawning and nursery	7-day mean > 6 mg/L (tidal habitats with 0-0.5 ppt salinity)	February 1 – May 31
	Instantaneous minimum > 5 mg/L	
Open-water[1,2]	30-day mean > 5.5 mg/L (tidal habitats with 0-0.5 ppt salinity) 30-day mean > 5 mg/L (tidal habitats with >0.5 ppt salinity)	Year-round
	7-day mean > 4 mg/L	
	Instantaneous minimum > 3.2 mg/L at temperatures < 29°C Instantaneous minimum > 4.3 mg/L at temperatures > 29°C	
Deep-water	30-day mean >3 mg/L	June 1-September 30
	1-day mean > 2.3 mg/L	
	Instantaneous minimum > 1.7 mg/L	
Deep-channel	Instantaneous minimum > 1 mg/L	June 1-September 30

[1]See subsection aa of 9 VAC 25-260-310 for site specific seasonal open-water dissolved oxygen criteria applicable to the tidal Mattaponi and Pamunkey Rivers and their tidal tributaries.

[2]In applying this open-water instantaneous criterion to the Chesapeake Bay and its tidal tributaries where the existing water quality for dissolved oxygen exceeds an instantaneous minimum of 3.2 mg/L, that higher water quality for dissolved oxygen shall be provided antidegradation protection in accordance with section 30 subsection A.2 of the Water Quality Standards.

Attachment 5

Temperature 26.5°C; pH 8.7 SU

Attachment 6

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Schwartz STP Permit No.: VA0073121

Receiving Stream: Potomac Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO3) =	50	mg/L	1Q10 (Annual) =	0	MGD	Annual - 1Q10 Mix =	0	%	Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =	26.5	deg C	7Q10 (Annual) =	0	MGD	- 7Q10 Mix =	0	%	90% Temp (Annual) =		deg C
90% Temperature (Wet season) =		deg C	30Q10 (Annual) =	0	MGD	- 30Q10 Mix =	0	%	90% Temp (Wet season) =		deg C
90% Maximum pH =	8.7	SU	1Q10 (Wet season) =	0	MGD	Wet Season - 1Q10 Mix =	0	%	90% Maximum pH =		SU
10% Maximum pH =		SU	30Q10 (Wet season)	0	MGD	- 30Q10 Mix =	0	%	10% Maximum pH =		SU
Tier Designation (1 or 2) =	1		30Q5 =	0	MGD				Discharge Flow =	0.0008	MGD
Public Water Supply (PWS) Y/N? =	n		Harmonic Mean =	0	MGD						
Trout Present Y/N? =	n		Annual Average =	0	MGD						
Early Life Stages Present Y/N? =	y										

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	--	--	--	na	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	--	--	--	na	7.8E+02
Acrylonitrile [C]	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	--	--	--	na	6.6E+00
Aldrin [C]	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	--	--	--	--	3.0E+00	--	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	5.84E+01	7.09E+00	na	--	5.8E+01	7.1E+00	na	--	--	--	--	--	--	--	--	--	5.8E+01	7.1E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	5.84E+01	7.09E+00	na	--	5.8E+01	7.1E+00	na	--	--	--	--	--	--	--	--	--	5.8E+01	7.1E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	--	--	--	na	7.1E+02
Benzidine [C]	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	--	--	--	--	--	--	--	--	na	5.4E-03
Benzo (a) anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (b) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (k) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (a) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Bis2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	--	--	--	na	1.7E+05
Bromoform [C]	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	--	--	--	na	5.2E+03
Cadmium	0	8.2E-01	3.8E-01	na	--	8.2E-01	3.8E-01	na	--	--	--	--	--	--	--	--	--	8.2E-01	3.8E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	--	--	--	na	4.4E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane [C]	0	--	--	na	3.4E+02	--	--	na	3.4E+02	--	--	--	--	--	--	--	--	--	--	na	3.4E+02
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	--	--	--	--	--	--	--	--	na	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	1.8E+02	2.4E+01	na	--	1.8E+02	2.4E+01	na	--	--	--	--	--	--	--	--	--	1.8E+02	2.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Copper	0	3.6E+00	2.7E+00	na	--	3.6E+00	2.7E+00	na	--	--	--	--	--	--	--	--	--	3.6E+00	2.7E+00	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	2.2E+05
DDD [C]	0	--	--	na	8.4E-03	--	--	na	8.4E-03	--	--	--	--	--	--	--	--	--	--	na	8.4E-03
DDE [C]	0	--	--	na	5.9E-03	--	--	na	5.9E-03	--	--	--	--	--	--	--	--	--	--	na	5.9E-03
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	5.9E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	1.6E+04	--	--	--	--	--	--	--	--	--	--	na	1.6E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
3,3-Dichlorobenzidine [C]	0	--	--	na	7.7E-01	--	--	na	7.7E-01	--	--	--	--	--	--	--	--	--	--	na	7.7E-01
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	4.6E+02	--	--	--	--	--	--	--	--	--	--	na	4.6E+02
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.4E+05	--	--	--	--	--	--	--	--	--	--	na	1.4E+05
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	7.9E+02	--	--	--	--	--	--	--	--	--	--	na	7.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane [C]	0	--	--	na	3.9E+02	--	--	na	3.9E+02	--	--	--	--	--	--	--	--	--	--	na	3.9E+02
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	--	--	--	--	--	--	--	--	na	1.7E+03
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.2E+05	--	--	--	--	--	--	--	--	--	--	na	1.2E+05
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	5.9E+01	--	--	--	--	--	--	--	--	--	--	na	5.9E+01
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	2.3E+03	--	--	--	--	--	--	--	--	--	--	na	2.3E+03
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	7.7E+02	--	--	--	--	--	--	--	--	--	--	na	7.7E+02
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	9.1E+01	--	--	--	--	--	--	--	--	--	--	na	9.1E+01
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	--	--	--	--	--	na	na
1,2-Diphenylhydrazine [C]	0	--	--	na	5.4E+00	--	--	na	5.4E+00	--	--	--	--	--	--	--	--	--	--	na	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.4E+02	--	--	--	--	--	--	--	--	--	--	na	2.4E+02
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na	8.1E-01	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	8.1E-01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	8.1E-01	--	--	--	--	--	--	--	--	--	--	na	8.1E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene [C]	0	--	--	na	7.7E-03	--	--	na	7.7E-03	--	--	--	--	--	--	--	--	--	--	na	7.7E-03
Hexachlorobutadiene [C]	0	--	--	na	5.0E+02	--	--	na	5.0E+02	--	--	--	--	--	--	--	--	--	--	na	5.0E+02
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	--	--	--	--	--	--	--	--	na	1.3E-01
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	--	--	--	--	--	--	--	--	na	4.6E-01
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	--	--	--	--	--	--	--	--	9.5E-01	--	na	6.3E-01
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
Hexachloroethane [C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone [C]	0	--	--	na	2.6E+04	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	2.0E+01	2.3E+00	na	--	2.0E+01	2.3E+00	na	--	--	--	--	--	--	--	--	--	2.0E+01	2.3E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04
Nickel	0	5.6E+01	6.3E+00	na	4.6E+03	5.6E+01	6.3E+00	na	4.6E+03	--	--	--	--	--	--	--	--	5.6E+01	6.3E+00	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
N-Nitrosodimethylamine [C]	0	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	--	--	--	--	--	--	--	--	na	8.1E+01
N-Nitrosodiphenylamine [C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
N-Nitrosodi-n-propylamine [C]	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB-1016	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1221	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1232	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1242	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1248	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1254	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1260	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB Total [C]	0	--	--	na	1.7E-03	--	--	na	1.7E-03	--	--	--	--	--	--	--	--	--	--	na	1.7E-03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	8.2E+01	7.7E-03	5.9E-03	na	8.2E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	8.2E+01
Phenol	0	--	--	na	4.6E+06	--	--	na	4.6E+06	--	--	--	--	--	--	--	--	--	--	na	4.6E+06
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	na	1.5E+01
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00
Strontium-90	0	--	--	na	8.0E+00	--	--	na	8.0E+00	--	--	--	--	--	--	--	--	--	--	na	8.0E+00
Tritium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	--	--	--	--	--	--	--	--	na	2.0E+04
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	1.1E+04
Silver	0	3.2E-01	--	na	--	3.2E-01	--	na	--	--	--	--	--	--	--	--	--	3.2E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane [C]	0	--	--	na	1.1E+02	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	na	1.1E+02
Tetrachloroethylene [C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Thallium	0	--	--	na	6.3E+00	--	--	na	6.3E+00	--	--	--	--	--	--	--	--	--	--	na	6.3E+00
Toluene	0	--	--	na	2.0E+05	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	na	2.0E+05
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene [C]	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	7.5E-03
Tributyltin	0	4.6E-01	6.3E-02	na	--	4.6E-01	6.3E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	6.3E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	9.4E+02	--	--	--	--	--	--	--	--	--	--	na	9.4E+02
1,1,2-Trichloroethane [C]	0	--	--	na	4.2E+02	--	--	na	4.2E+02	--	--	--	--	--	--	--	--	--	--	na	4.2E+02
Trichloroethylene [C]	0	--	--	na	8.1E+02	--	--	na	8.1E+02	--	--	--	--	--	--	--	--	--	--	na	8.1E+02
2,4,6-Trichlorophenol [C]	0	--	--	na	6.5E+01	--	--	na	6.5E+01	--	--	--	--	--	--	--	--	--	--	na	6.5E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride [C]	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	--	--	--	--	--	--	--	--	na	6.1E+01
Zinc	0	3.6E+01	3.6E+01	na	6.9E+04	3.6E+01	3.6E+01	na	6.9E+04	--	--	--	--	--	--	--	--	3.6E+01	3.6E+01	na	6.9E+04

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	4.3E+03
Arsenic	9.0E+01
Barium	na
Cadmium	2.3E-01
Chromium III	1.4E+01
Chromium VI	6.4E+00
Copper	1.5E+00
Iron	na
Lead	1.4E+00
Manganese	na
Mercury	5.1E-02
Nickel	3.8E+00
Selenium	3.0E+00
Silver	1.3E-01
Zinc	1.4E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Schwartz STP Permit No.: VA0073121

Receiving Stream: Potomac Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	50 mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	0 %	Mean Hardness (as CaCO3) =	mg/L
90% Temperature (Annual) =	8.5 deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	0 %	90% Temp (Annual) =	deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	0 %	90% Temp (Wet season) =	deg C
90% Maximum pH =	8.7 SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	0 %	90% Maximum pH =	SU
10% Maximum pH =	SU	30Q10 (Wet season)	0 MGD	- 30Q10 Mix =	0 %	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.0006 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n	Annual Average =	0 MGD				
Early Life Stages Present Y/N? =	y						

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	--	--	--	na	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	--	--	--	na	7.8E+02
Acrylonitrile [C]	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	--	--	--	na	6.6E+00
Aldrin [C]	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	--	--	--	--	3.0E+00	--	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	5.84E+01	7.09E+00	na	--	5.8E+01	7.1E+00	na	--	--	--	--	--	--	--	--	--	5.8E+01	7.1E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	5.84E+01	7.09E+00	na	--	5.8E+01	7.1E+00	na	--	--	--	--	--	--	--	--	--	5.8E+01	7.1E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	--	--	--	na	7.1E+02
Benzidine [C]	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	--	--	--	--	--	--	--	--	na	5.4E-03
Benzo (a) anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (b) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (k) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (a) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Bis2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	--	--	--	na	1.7E+05
Bromoform [C]	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	--	--	--	na	5.2E+03
Cadmium	0	8.2E-01	3.8E-01	na	--	8.2E-01	3.8E-01	na	--	--	--	--	--	--	--	--	--	8.2E-01	3.8E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	--	--	--	na	4.4E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04

Temperature 8.5°C, pH 8.7SU Attachment 6

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane [C]	0	--	--	na	3.4E+02	--	--	na	3.4E+02	--	--	--	--	--	--	--	--	--	--	na	3.4E+02
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	--	--	--	--	--	--	--	--	na	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	1.8E+02	2.4E+01	na	--	1.8E+02	2.4E+01	na	--	--	--	--	--	--	--	--	--	1.8E+02	2.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Copper	0	3.6E+00	2.7E+00	na	--	3.6E+00	2.7E+00	na	--	--	--	--	--	--	--	--	--	3.6E+00	2.7E+00	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	2.2E+05
DDD [C]	0	--	--	na	8.4E-03	--	--	na	8.4E-03	--	--	--	--	--	--	--	--	--	--	na	8.4E-03
DDE [C]	0	--	--	na	5.9E-03	--	--	na	5.9E-03	--	--	--	--	--	--	--	--	--	--	na	5.9E-03
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	5.9E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	1.6E+04	--	--	--	--	--	--	--	--	--	--	na	1.6E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
3,3-Dichlorobenzidine [C]	0	--	--	na	7.7E-01	--	--	na	7.7E-01	--	--	--	--	--	--	--	--	--	--	na	7.7E-01
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	4.6E+02	--	--	--	--	--	--	--	--	--	--	na	4.6E+02
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.4E+05	--	--	--	--	--	--	--	--	--	--	na	1.4E+05
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	7.9E+02	--	--	--	--	--	--	--	--	--	--	na	7.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane [C]	0	--	--	na	3.9E+02	--	--	na	3.9E+02	--	--	--	--	--	--	--	--	--	--	na	3.9E+02
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	--	--	--	--	--	--	--	--	na	1.7E+03
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.2E+05	--	--	--	--	--	--	--	--	--	--	na	1.2E+05
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	5.9E+01	--	--	--	--	--	--	--	--	--	--	na	5.9E+01
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	2.3E+03	--	--	--	--	--	--	--	--	--	--	na	2.3E+03
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	7.7E+02	--	--	--	--	--	--	--	--	--	--	na	7.7E+02
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	9.1E+01	--	--	--	--	--	--	--	--	--	--	na	9.1E+01
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	--	--	--	--	--	na	na
1,2-Diphenylhydrazine [C]	0	--	--	na	5.4E+00	--	--	na	5.4E+00	--	--	--	--	--	--	--	--	--	--	na	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.4E+02	--	--	--	--	--	--	--	--	--	--	na	2.4E+02
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na	8.1E-01	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	8.1E-01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	8.1E-01	--	--	--	--	--	--	--	--	--	--	na	8.1E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene [C]	0	--	--	na	7.7E-03	--	--	na	7.7E-03	--	--	--	--	--	--	--	--	--	--	na	7.7E-03
Hexachlorobutadiene [C]	0	--	--	na	5.0E+02	--	--	na	5.0E+02	--	--	--	--	--	--	--	--	--	--	na	5.0E+02
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	--	--	--	--	--	--	--	--	na	1.3E-01
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	--	--	--	--	--	--	--	--	na	4.6E-01
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	--	--	--	--	--	--	--	--	9.5E-01	--	na	6.3E-01
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
Hexachloroethane [C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone [C]	0	--	--	na	2.6E+04	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	2.0E+01	2.3E+00	na	--	2.0E+01	2.3E+00	na	--	--	--	--	--	--	--	--	--	2.0E+01	2.3E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04
Nickel	0	5.6E+01	6.3E+00	na	4.6E+03	5.6E+01	6.3E+00	na	4.6E+03	--	--	--	--	--	--	--	--	5.6E+01	6.3E+00	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
N-Nitrosodimethylamine [C]	0	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	--	--	--	--	--	--	--	--	na	8.1E+01
N-Nitrosodiphenylamine [C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
N-Nitrosodi-n-propylamine [C]	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB-1016	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1221	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1232	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1242	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1248	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1254	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1260	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB Total [C]	0	--	--	na	1.7E-03	--	--	na	1.7E-03	--	--	--	--	--	--	--	--	--	--	na	1.7E-03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	8.2E+01	7.7E-03	5.9E-03	na	8.2E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	8.2E+01
Phenol	0	--	--	na	4.6E+06	--	--	na	4.6E+06	--	--	--	--	--	--	--	--	--	--	na	4.6E+06
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	na	1.5E+01
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00
Strontium-90	0	--	--	na	8.0E+00	--	--	na	8.0E+00	--	--	--	--	--	--	--	--	--	--	na	8.0E+00
Tritium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	--	--	--	--	--	--	--	--	na	2.0E+04
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	1.1E+04
Silver	0	3.2E-01	--	na	--	3.2E-01	--	na	--	--	--	--	--	--	--	--	--	3.2E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane [C]	0	--	--	na	1.1E+02	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	na	1.1E+02
Tetrachloroethylene [C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Thallium	0	--	--	na	6.3E+00	--	--	na	6.3E+00	--	--	--	--	--	--	--	--	--	--	na	6.3E+00
Toluene	0	--	--	na	2.0E+05	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	na	2.0E+05
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene [C]	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	7.5E-03
Tributyltin	0	4.6E-01	6.3E-02	na	--	4.6E-01	6.3E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	6.3E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	9.4E+02	--	--	--	--	--	--	--	--	--	--	na	9.4E+02
1,1,2-Trichloroethane [C]	0	--	--	na	4.2E+02	--	--	na	4.2E+02	--	--	--	--	--	--	--	--	--	--	na	4.2E+02
Trichloroethylene [C]	0	--	--	na	8.1E+02	--	--	na	8.1E+02	--	--	--	--	--	--	--	--	--	--	na	8.1E+02
2,4,6-Trichlorophenol [C]	0	--	--	na	6.5E+01	--	--	na	6.5E+01	--	--	--	--	--	--	--	--	--	--	na	6.5E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride [C]	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	--	--	--	--	--	--	--	--	na	6.1E+01
Zinc	0	3.6E+01	3.6E+01	na	6.9E+04	3.6E+01	3.6E+01	na	6.9E+04	--	--	--	--	--	--	--	--	3.6E+01	3.6E+01	na	6.9E+04

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens,
   Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	4.3E+03
Arsenic	9.0E+01
Barium	na
Cadmium	2.3E-01
Chromium III	1.4E+01
Chromium VI	6.4E+00
Copper	1.5E+00
Iron	na
Lead	1.4E+00
Manganese	na
Mercury	5.1E-02
Nickel	3.8E+00
Selenium	3.0E+00
Silver	1.3E-01
Zinc	1.4E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

1APOM000.06 (Red Buoy 4)

Lat/Long - 38°20'48.4" / 77°17'48"

8-Apr-08

	Field pH	Temp C°	pH rating	Temp rating	
3/22/2007	8.7	8.5	8.7	26.5	90th percentile value
6/18/2007	8	26.5	8.3	25.7	
8/20/2007	8.3	25.7	8	24.3	
9/24/2007	7.4	24.3	7.7	15.4	
10/29/2007	7.7	15.4	7.4	8.5	

JCC

Attachment 7

Define Point of Interest

38,21,15.0 -77,17,18.0
is the Search Point

Submit | Cancel

Search Point

- (●) **Change** to "clicked" map point
- ( ) **Fixed** at 38,21,15.0 - 77,17,18.0

Show Position Rings

(●) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area

(●) Yes ( ) No
2 miles

Search Point is at map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search

Map Overlay Legend

Position Rings 1 mile and 1 4 mile at the Search Point

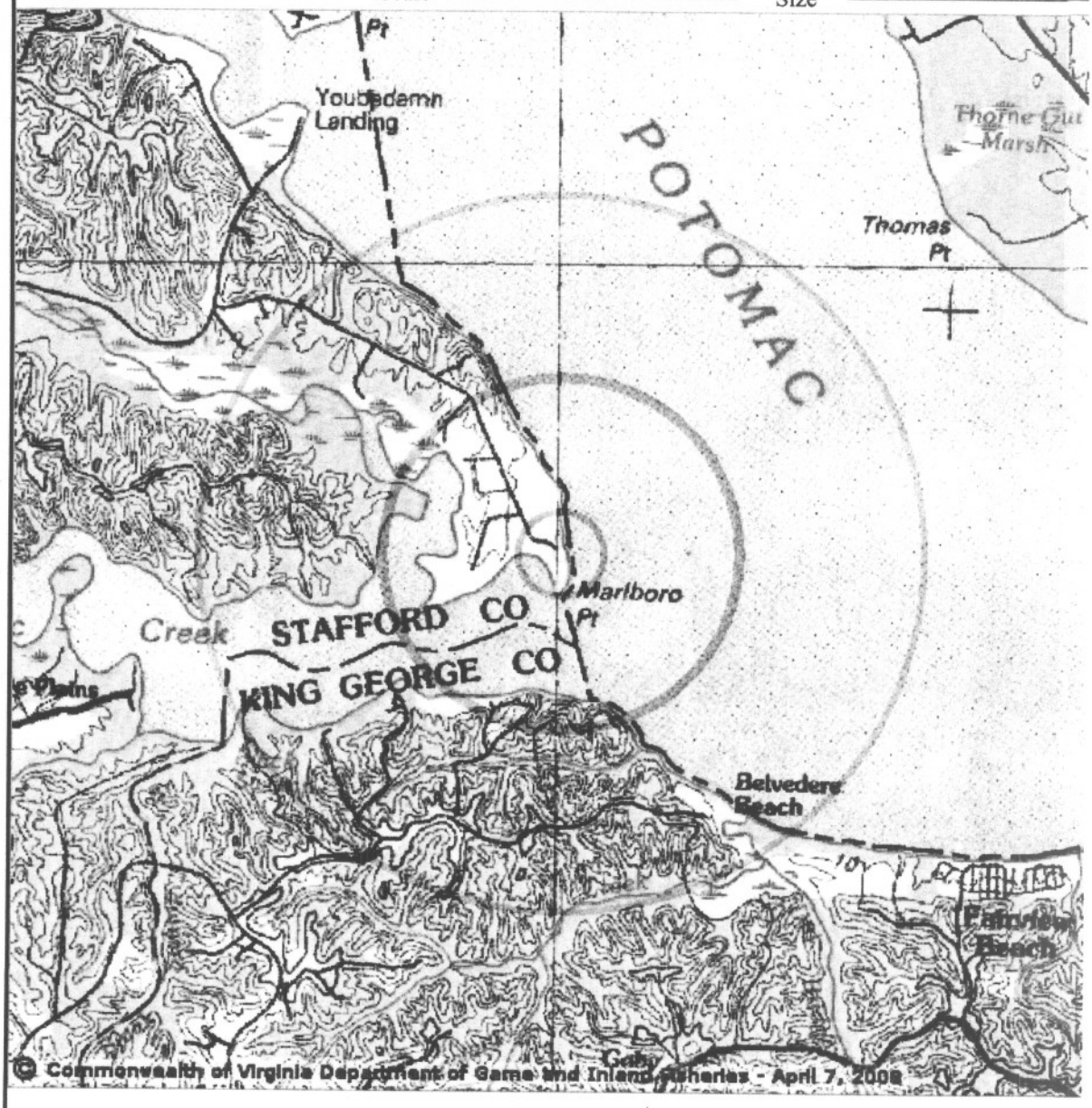
2 mile radius Search Area

Refresh Browser Page

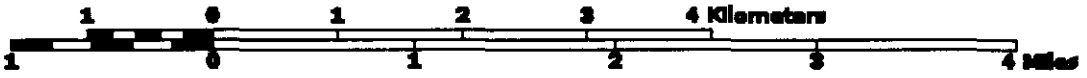
Map Click: Pan | Id | M

Map Scale: In — Zoom — Out

Screen Size: Small — Size



Attachment 8



Point of Search 38,21,15.0 -77,17,18.0
Map Location 38,21,15.0 -77,17,18.0

Select **Coordinate System:** (•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 295261 and top 4252402. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West.Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.16 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.59 square miles.

Black and white aerial photography aquired near 1990 and topographic maps are from the United States Department of the Interior, United States Geological Survey.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.nationa.geographic.com/topo
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2008-04-07 16:30:32 (qa/qc December 21, 2007 12 11 - tn=171972 dist=3218 I)

Known or likely to occur within a **2 mile radius of 38,21,15. -77,17,18.**
in **099 King George County, 179 Stafford County, VA**

475 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 33) (33 species with Status* or Tier I**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060003	FESE	II	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
040096	ST	I	Falcon, peregrine	Falco peregrinus	Yes	CBC
040129	ST	I	Sandpiper, upland	Bartramia longicauda		BOVA
040293	ST	I	Shrike, loggerhead	Lanius ludovicianus	Yes	CBC,BOVA
040093	ST	II	Eagle, bald	Haliaeetus leucocephalus	Yes	Collections,BBA,CBC,E
040292	FSST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100248	FS	I	Fritillary, regal	Speyeria idalia idalia		BOVA
010032	FSSS	II	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
040320	FS	II	Warbler, cerulean	Dendroica cerulea		BOVA
040084	FS		Goshawk, northern	Accipiter gentilis	Yes	CBC
010077	SS	I	Shiner, bridle	Notropis bifrenatus		BOVA
040372	SS	I	Crossbill, red	Loxia curvirostra	Yes	CBC,BOVA
040213	SS	II	Owl, northern saw-whet	Aegolius acadicus	Yes	CBC
040266	SS	II	Wren, winter	Troglodytes troglodytes	Yes	CBC,BOVA
030063	CC	III	Turtle, spotted	Clemmys guttata		BOVA
040094	SS	III	Harrier, northern	Circus cyaneus	Yes	CBC,BOVA
040034	SS	III	Heron, tricolored	Egretta tricolor		BOVA
040036	SS	III	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040204	SS	III	Owl, barn	Tyto alba pratincola	Yes	CBC,BOVA
040264	SS	IV	Creeper, brown	Certhia americana	Yes	CBC,BOVA
040180	SS	IV	Tern, Forster's	Sterna forsteri	Yes	Collections,BBA,BOVA
040364	SS		Dickcissel	Spiza americana		BOVA
040032	SS		Egret, great	Ardea alba egretta		BOVA
040366	SS		Finch, purple	Carpodacus purpureus	Yes	CBC,BOVA
040285	SS		Kinglet, golden-crowned	Regulus satrapa	Yes	CBC,BOVA
040112	SS		Moorhen, common	Gallinula chloropus cachinnans		BOVA
040262	SS		Nuthatch, red-breasted	Sitta canadensis	Yes	CBC,BOVA
040189	SS		Tern, Caspian	Sterna caspia		BOVA

040278	SS		Thrush, hermit	Catharus guttatus	Yes	CBC,BOVA
040314	SS		Warbler, magnolia	Dendroica magnolia		BOVA
050045	SS		Otter, northern river	Lontra canadensis lataxina		BOVA
040225		I	Sapsucker, yellow-bellied	Sphyrapicus varius	Yes	CBC,BOVA
040319		I	Warbler, black-throated green	Dendroica virens		BOVA

To view **All 475 species** View 475

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candid FS=Federal Species of Concern; SC=State Candidate; CC=Collection Concern; SS=State Special Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Anadromous Fish Use Streams (3 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	View Map
C1	Accokeek creek	Confirmed	Yes
C63	Potomac creek	Confirmed	Yes
C64	Potomac river	Confirmed	Yes

Fish Impediments

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Cold Water Stream Survey (Trout Streams)
Summary of Recent Observations

N/A

Public Holdings:

N/A

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- Site tested using browsers FireFox 2.0, IE 7.0, and Opera 9.2 deq8 I 171972 undefined
- W3C HTML validation <BASE href="http://vafwis.org/fwis/NewPages/">VaFWIS_GeographicSelect_Options.asp

Anadromous Fish Use Streams

38,21,15.0 -77,17,18.0
is the Search Point

Show Position Rings
○ Yes ◉ No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
◉ Yes ○ No
2 miles

Search Point is at map center

Base Map Choices
Topography

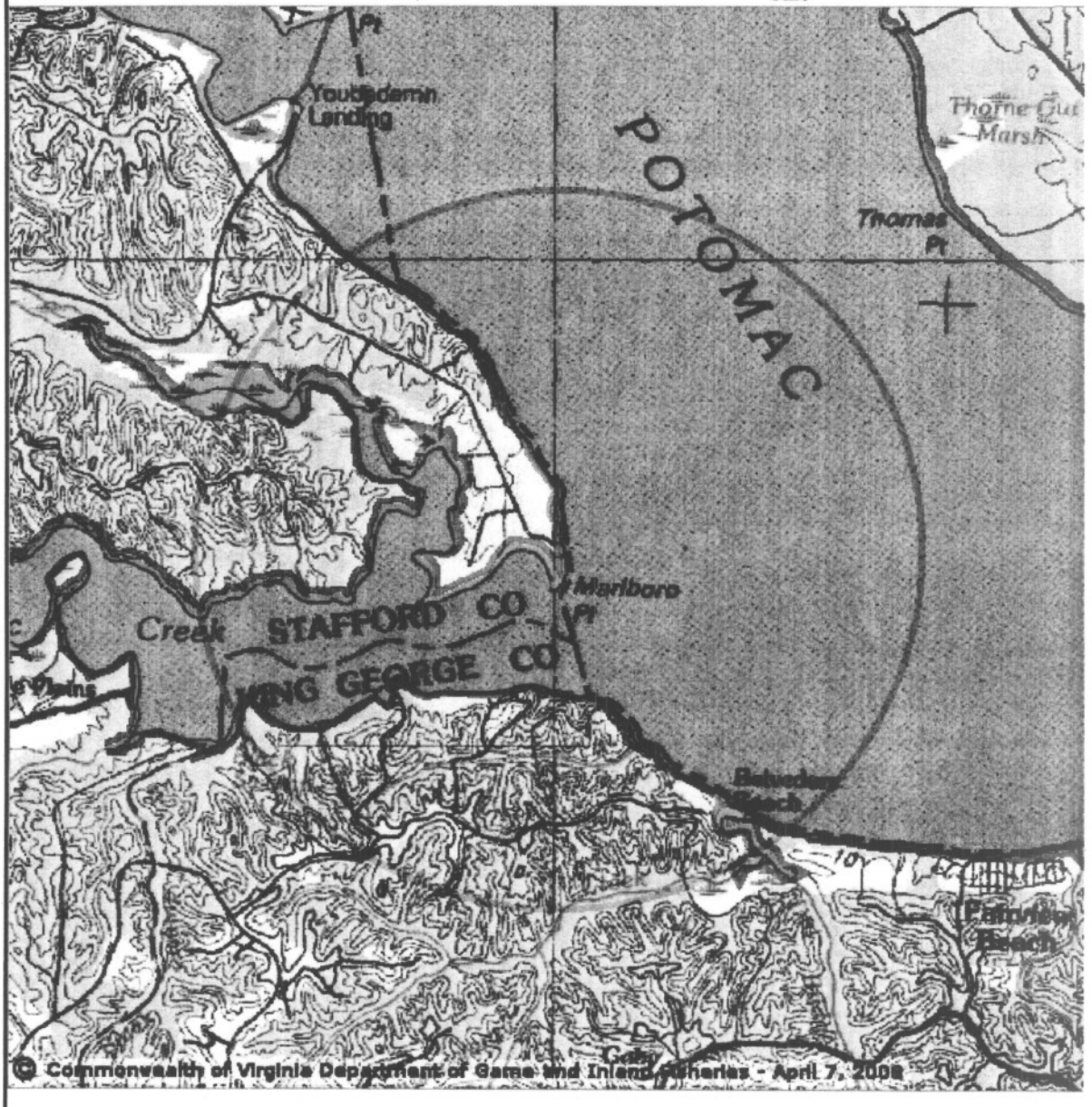
Map Overlay Choices
Current List: Search, Anadromous

Map Overlay Legend

Anadromous Fish Reach
Confirmed
Potential
123 **Impediment**
2 mile radius Search Area

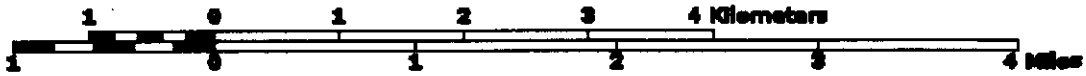
Refresh Browser Page

Map Click: Pan To M | Map Scale: In Zoom Out | Screen Size: Small Size



N

Attachment 8



Point of Search 38,21,15.0 -77,17,18.0

Map Location 38,21,15.0 -77,17,18.0

Select **Coordinate System:** (•) Degrees,Minutes,Seconds Latitude - Longitude

( ) Decimal Degrees Latitude - Longitude

( ) Meters UTM NAD83 East North Zone

( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 295261 and top 4252403. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West.Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.16 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.59 square miles.

Black and white aerial photography aquired near 1990 and topographic maps are from the United States Department of the Interior, United States Geological Survey.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.nationa.geographic.com/topo
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2008-04-07 16:32:41 (qa/qc December 21, 2007 12 11 - tn=171972 dist=3218 I)

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Anadromous Fish Use Report

Stream ID **C63** View Map

Show record ID: C63

Stream Name **Potomac creek**

Major Drainage **Potomac**

Upstream Boundary **2100 m downstr. of Rt. 608, at confl. w/ unnamed**

City / County **(099) King George**
(179) Stafford

7.5' Quadrangle **(38077C4) Fredericksburg**
(38077C3) Passapatanzy

USGS Hydrologic Unit **(02070011) Mid Atlantic Region: Lower Potomac River**

DSWC Hyrdologic Unit **(A29) POTOMAC RIVER/POTOMAC CREEK**

Confirmed Species for Anadromous Fish Use reach **Potomac creek:**

BOVA CODE	Status*	Tier**	Common Name	Scientific Name
010038		IV	Alewife	*Alosa pseudoharengus*
010040		IV	Shad, American	*Alosa sapidissima*

010168	Bass, striped	*Morone saxatilis*
010045	Herring, blueback	*Alosa aestivalis*
010206	Perch, yellow	*Perca flavescens*

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Feder Candidate; FS=Federal Species of Concern; SC=State Candidate; CC=Collection Concern; SS=State Special Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

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- Site tested using browsers FireFox 2.0, IE 7.0, and Opera 9.2 deq8 I 171972 undefined
- W3C HTML validation <BASE href="http://vafwis.org/fwis/NewPages/">VaFWIS_report_anadromous.asp

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Anadromous Fish Use Report

Stream ID	C64	View Map	Show record ID: C64
Stream Name	Potomac river		
Major Drainage	Potomac		
Upstream Boundary	Great Falls, only AMS found past L. Falls Dam		
City / County	(013) Arlington (059) Fairfax (510) Alexandria City (099) King George (193) Westmoreland (133) Northumberland (153) Prince William (179) Stafford		
7.5' Quadrangle	(38077C3) Passapatanzy (38077D3) Widewater (38077E3) Quantico (38076B6) St. Clements Island (38076A5) Kinsale (38076B5) Piney Point (37076H3) Burgess		

(37076H2) Smith Point
(38077C2) King George
(38077E2) Indian Head
(38077F2) Fort Belvoir
(38077H2) Falls Church
(38077C1) Dahlgren
(38077D1) Mathias Point
(38077F1) Mount Vernon
(38077G1) Alexandria
(38077H1) Washington West
(38076B8) Colonial Beach South
(38076C8) Colonial Beach North
(38076B7) Stratford Hall
(37076H4) Heathsville
(38076A4) St. George Island

Conf
Spec
Anac
Fish
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river

BOVA CODE	Status*	Tier**	Common Name	Scientific Name
010038		IV	Alewife	*Alosa pseudoharengus*
010040		IV	Shad, American	*Alosa sapidissima*
010168			Bass, striped	*Morone saxatilis*
010045			Herring, blueback	*Alosa aestivalis*
010206			Perch, yellow	*Perca flavescens*
010039			Shad, hickory	*Alosa mediocris*

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Feder Candidate; FS=Federal Species of Concern; SC=State Candidate; CC=Collection Concern; SS=State Special Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

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Anadromous Fish Use Report

Stream ID **C1** View Map

Show record ID: C1

Stream Name **Accokeek creek**

Major Drainage **Potomac**

Upstream Boundary **2100 m downstr. of Rt. 609**

7.5' Quadrangle **(38077C3) Passapatanzy**

USGS Hydrologic Unit **(02070011) Mid Atlantic Region: Lower Potomac River**

DSWC Hyrdologic Unit **(A29) POTOMAC RIVER/POTOMAC CREEK**

Confirmed Species for Anadromous Fish Use reach **Accokeek creek:**

BOVA CODE	Status*	Tier**	Common Name	Scientific Name
010206			Perch, yellow	*Perca flavescens*

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Feder Candidate; FS=Federal Species of Concern; SC=State Candidate; CC=Collection Concern; SS=State Special Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

VA0073121 Schwartz Sewage Treatment Plant

Due	Outfall	NOD?	Rec'd	Par #	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Qty Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max	Conc Unit Lim	Ex	Freq	Comments
10/10/07	001	N	10/12/07	001	FLOW	.0002	*0.0006*	.0002	*NL*	MGD		**********		**********		**********		0	Q	
10/10/07	001	N	10/12/07	002	PH		**********		**********		6.9	*6.0*		**********	6.9	*9.0*	SU	0	Q	
10/10/07	001	N	10/12/07	003	BOD5	<.002	*0.007*	<.002	*0.010*	KG/D		**********	<2	*3.0*	<2	*4.5*	MG/L	0	Q	
10/10/07	001	N	10/12/07	004	TSS	<.0008	*0.007*	<.0008	*0.010*	KG/D		**********	<1	*3.0*	<1	*4.5*	MG/L	0	Q	
10/10/07	001	N	10/12/07	007	DO		**********		**********		7.6	*6.0*		**********		**********	MG/L	0	Q	
10/10/07	001	N	10/12/07	012	PHOSPHORUS, TOTAL (AS P)	.00009	*0.0004*	.00009	*0.0006*	KG/D		**********	.124	*0.18*	.124	*0.27*	MG/L	0	Q	
10/10/07	001	N	10/12/07	140	ENTEROCOCCI		**********		**********			**********		**********	3	*104*	#100M	0	Q	
10/10/07	001	N	10/12/07	157	CL2, TOTAL CONTACT		**********		**********		2.3	*1.0*		**********		**********	MG/L	0	Q	
10/10/07	001	N	10/12/07	165	CL2, INST RES MAX		**********		**********			**********	<QL	*0.019*	<QL	*0.019*	MG/L	0	Q	
10/10/07	001	N	10/12/07	305	AMMONIA, AS N NOV-MAR		**********		**********			**********		*4.3*		*4.3*	MG/L		Q	
10/10/07	001	N	10/12/07	765	TKN, APR-OCT	.0007	*0.002*	.0007	*0.006*	KG/D		**********	0.9	*1.0*	0.9	*1.5*	MG/L	0	Q	
7/10/07	001	Y	7/10/07	001	FLOW		*0.0006*		*NL*	MGD		**********		**********		**********			Q	
7/10/07	001	Y	7/10/07	002	PH		**********		**********			*6.0*		**********		*9.0*	SU		Q	
7/10/07	001	Y	7/10/07	003	BOD5		*0.007*		*0.010*	KG/D		**********		*3.0*		*4.5*	MG/L		Q	
7/10/07	001	Y	7/10/07	004	TSS		*0.007*		*0.010*	KG/D		**********		*3.0*		*4.5*	MG/L		Q	
7/10/07	001	Y	7/10/07	007	DO		**********		**********			*6.0*		**********		**********	MG/L		Q	
7/10/07	001	Y	7/10/07	012	PHOSPHORUS, TOTAL (AS P)		*0.0004*		*0.0006*	KG/D		**********		*0.18*		*0.27*	MG/L		Q	
7/10/07	001	Y	7/10/07	140	ENTEROCOCCI		**********		**********			**********		**********		*104*	#100M		Q	
7/10/07	001	Y	7/10/07	157	CL2, TOTAL CONTACT		**********		**********			*1.0*		**********		**********	MG/L		Q	
7/10/07	001	Y	7/10/07	165	CL2, INST RES MAX		**********		**********			**********		*0.019*		*0.019*	MG/L		Q	
7/10/07	001	Y	7/10/07	305	AMMONIA, AS N NOV-MAR		**********		**********			**********		*4.3*		*4.3*	MG/L		Q	
7/10/07	001	Y	7/10/07	765	TKN, APR-OCT		*0.002*		*0.006*	KG/D		**********		*1.0*		*1.5*	MG/L		Q	
4/10/07	001	Y	4/12/07	001	FLOW		*0.0006*		*NL*	MGD		**********		**********		**********			Q	
4/10/07	001	Y	4/12/07	002	PH		**********		**********			*6.0*		**********		*9.0*	SU		Q	
4/10/07	001	Y	4/12/07	003	BOD5		*0.007*		*0.010*	KG/D		**********		*3.0*		*4.5*	MG/L		Q	
4/10/07	001	Y	4/12/07	004	TSS		*0.007*		*0.010*	KG/D		**********		*3.0*		*4.5*	MG/L		Q	
4/10/07	001	Y	4/12/07	007	DO		**********		**********			*6.0*		**********		**********	MG/L		Q	
4/10/07	001	Y	4/12/07	012	PHOSPHORUS, TOTAL (AS P)		*0.0004*		*0.0006*	KG/D		**********		*0.18*		*0.27*	MG/L		Q	
4/10/07	001	Y	4/12/07	140	ENTEROCOCCI		**********		**********			**********		**********		*104*	#100M		Q	
4/10/07	001	Y	4/12/07	157	CL2, TOTAL CONTACT		**********		**********			*1.0*		**********		**********	MG/L		Q	
4/10/07	001	Y	4/12/07	165	CL2, INST RES MAX		**********		**********			**********		*0.019*		*0.019*	MG/L		Q	

Attachment 9

VA0073121 Schwartz Sewage Treatment Plant

Due	Outfall	ND?	Rec'd	Par #	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Qty Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max	Conc Unit Lim	Ex	Freq	Comments
4/10/07	001	Y	4/12/07	305	AMMONIA, AS N NOV-MAR		*********		*********			*********		4.3		4.3	MG/L		Q	
4/10/07	001	Y	4/12/07	765	TKN, APR-OCT		0.002		0.006	KG/D		*********		1.0		1.5	MG/L		Q	
1/10/07	001	N	1/11/07	001	FLOW	.0002	0.0006	.0002	NL	MGD		*********		*********		*********		0	Q	
1/10/07	001	N	1/11/07	002	PH		*********		*********		6.6	6.0		*********	6.6	9.0	SU	0	Q	
1/10/07	001	N	1/11/07	003	BOD5	.002	0.007	.002	0.010	KG/D		*********	<2	3.0	<2	4.5	MG/L	0	Q	
1/10/07	001	N	1/11/07	004	TSS	.001	0.007	.001	0.010	KG/D		*********	1.6	3.0	1.6	4.5	MG/L	0	Q	
1/10/07	001	N	1/11/07	007	DO		*********		*********		9.1	6.0		*********		*********	MG/L	0	Q	
1/10/07	001	N	1/11/07	012	PHOSPHORUS, TOTAL (AS P)	.00007	0.0004	.00007	0.0006	KG/D		*********	.09	0.18	.09	0.27	MG/L	0	Q	
1/10/07	001	N	1/11/07	140	ENTEROCOCCI		*********		*********			*********		*********	1	104	#100M	0	Q	
1/10/07	001	N	1/11/07	157	CL2, TOTAL CONTACT		*********		*********		1.8	1.0		*********		*********	MG/L	0	Q	
1/10/07	001	N	1/11/07	165	CL2, INST RES MAX		*********		*********			*********	<QL	0.019	<QL	0.019	MG/L	0	Q	
1/10/07	001	N	1/11/07	305	AMMONIA, AS N NOV-MAR		*********		*********			*********	<.1	4.3	<.1	4.3	MG/L	0	Q	
1/10/07	001	N	1/11/07	765	TKN, APR-OCT	NR	0.002	NR	0.006	KG/D		*********	NR	1.0	NR	1.5	MG/L		Q	
10/10/06	001	Y	10/11/06	001	FLOW		0.0006		NL	MGD		*********		*********		*********			Q	
8/10/06	001	N	8/10/06	001	FLOW	NR	0.0006	NR	NL	MGD		*********		*********		*********			Q	rptd 6/10/06
8/10/06	001	N	8/10/06	002	PH		*********		*********		NR	6.0		*********	NR	9.0	SU		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	003	BOD5	NR	0.007	NR	0.010	KG/D		*********	NR	3.0	NR	4.5	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	004	TSS	NR	0.007	NR	0.010	KG/D		*********	NR	3.0	NR	4.5	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	007	DO		*********		*********		NR	6.0		*********		*********	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	012	PHOSPHORUS, TOTAL (AS P)	NR	0.0004	NR	0.0006	KG/D		*********	NR	0.18	NR	0.27	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	140	ENTEROCOCCI		*********		*********			*********		*********	NR	104	#100M		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	157	CL2, TOTAL CONTACT		*********		*********		NR	1.0		*********		*********	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	165	CL2, INST RES MAX		*********		*********			*********	NR	0.019	NR	0.019	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	305	AMMONIA, AS N NOV-MAR		*********		*********			*********	NR	4.3	NR	4.3	MG/L		Q	rptd 6/10/06
8/10/06	001	N	8/10/06	765	TKN, APR-OCT	NR	0.002	NR	0.006	KG/D		*********	NR	1.0	NR	1.5	MG/L		Q	rptd 6/10/06
6/10/06	001	Y	6/12/06	001	FLOW		0.0006		NL	MGD		*********		*********		*********			Q	
5/10/06	001	N	5/10/06	001	FLOW	NR	0.0006	NR	NL	MGD		*********		*********		*********			Q	
5/10/06	001	N	5/10/06	002	PH		*********		*********		NR	6.0		*********	NR	9.0	SU		Q	
5/10/06	001	N	5/10/06	003	BOD5	NR	0.007	NR	0.010	KG/D		*********	NR	3.0	NR	4.5	MG/L		Q	
5/10/06	001	N	5/10/06	004	TSS	NR	0.007	NR	0.010	KG/D		*********	NR	3.0	NR	4.5	MG/L		Q	
5/10/06	001	N	5/10/06	007	DO		*********		*********		NR	6.0		*********		*********	MG/L		Q	
5/10/06	001	N	5/10/06	012	PHOSPHORUS, TOTAL (AS P)	NR	0.0004	NR	0.0006	KG/D		*********	NR	0.18	NR	0.27	MG/L		Q	
5/10/06	001	N	5/10/06	140	ENTEROCOCCI		*********		*********			*********		*********	NR	104	#100M		Q	

VA0073121 Schwartz Sewage Treatment Plant

Due	Outfall	NOD?	Rec'd	Par #	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Qty Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max	Conc Unit Lim	Ex	Freq	Comments
5/10/06	001	N	5/10/06	157	CL2, TOTAL CONTACT		*********		*********		NR	*1.0*		*********		*********	MG/L		Q	
5/10/06	001	N	5/10/06	165	CL2, INST RES MAX		*********		*********			*********	NR	*0.019*	NR	*0.019*	MG/L		Q	
5/10/06	001	N	5/10/06	305	AMMONIA, AS N NOV-MAR		*********		*********			*********	NR	*4.3*	NR	*4.3*	MG/L		Q	
5/10/06	001	N	5/10/06	765	TKN, APR-OCT	NR	*0.002*	NR	*0.006*	KG/D		*********	NR	*1.0*	NR	*1.5*	MG/L		Q	
4/10/06	001	Y	4/3/06	001	FLOW		*0.0006*		*NL*			*********		*********		*********			Q	A copy was rec'd 4/3/06; Original was rec'd 04/10/06.
1/10/06	001	Y	1/10/06	001	FLOW		*0.0006*		*NL*			*********		*********		*********			Q	Revised DMR recd 1/18/06.
10/10/05	001	Y	10/11/05	001	FLOW		*0.0006*		*NL*			*********		*********		*********			Q	
5/10/05	001	N	5/12/05	001	FLOW	.0001	*0.0006*	.0001	*NL*			*********		*********		*********			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	002	PH		*********		*********		7.3	*6.0*		*********	7.3	*9.0*			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	003	BOD5	<QL	*0.007*	<QL	*0.010*			*********	<QL	*3.0*	<QL	*4.5*			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	004	TSS	.0019	*0.007*	.0019	*0.010*			*********	5.0	*3.0*	5.0	*4.5*		2	Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	007	DO		*********		*********		8.3	*6.0*		*********		*********			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	012	PHOSPHORUS, TOTAL (AS P)	.0009	*0.0004*	.0009	*0.0006*			*********	2.4	*0.18*	2.4	*0.27*		4	Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	140	ENTEROCOCCI		*********		*********			*********		*********	10	*104*			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	157	CL2, TOTAL CONTACT		*********		*********		3.4	*1.0*		*********		*********			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
5/10/05	001	N	5/12/05	165	CL2, INST RES MAX		*********		*********			*********	<QL	*0.019*	<QL	*0.019*			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.

VA0073121 Schwartz Sewage Treatment Plant

Due	Outfall	NDI?	Rec'd	Par #	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Qty Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max	Conc Unit Lim	Ex	Freq	Comments
5/10/05	001	N	5/12/05	765	TKN, APR-OCT	<QL	0.002	<QL	0.006			**********	<QL	1.0	<QL	1.5			Q	No monitoring period on first page of DMR; amended DMR rec'd w/monitoring date added. Orig 1st pg recd 6/20.
2/10/05	001	Y	2/11/05	001	FLOW		0.0006		NL			**********		**********		**********			Q	
11/10/04	001	Y	11/12/04	001	FLOW		0.0006		NL			**********		**********		**********			Q	
11/10/04	001	Y	11/12/04	002	PH		**********		**********			6.0		**********		9.0			Q	
11/10/04	001	Y	11/12/04	003	BOD5		0.007		0.010			**********		3.0		4.5			Q	
11/10/04	001	Y	11/12/04	004	TSS		0.007		0.010			**********		3.0		4.5			Q	
11/10/04	001	Y	11/12/04	007	DO		**********		**********			6.0		**********		**********			Q	
11/10/04	001	Y	11/12/04	012	PHOSPHORUS, TOTAL (AS P)		0.0004		0.0006			**********		0.18		0.27			Q	
11/10/04	001	Y	11/12/04	140	ENTEROCOCCI		**********		**********			**********		**********		104			Q	
11/10/04	001	Y	11/12/04	157	CL2, TOTAL CONTACT		**********		**********			1.0		**********		**********			Q	
11/10/04	001	Y	11/12/04	165	CL2, INST RES MAX		**********		**********			**********		0.019		0.019			Q	
11/10/04	001	Y	11/12/04	305	AMMONIA, AS N NOV-MAR		**********		**********			**********		4.3		4.3			Q	
11/10/04	001	Y	11/12/04	765	TKN, APR-OCT		0.002		0.006			**********		1.0		1.5			Q	
8/10/04	001	Y	8/11/04	001	FLOW		0.0006		NL			**********		**********		**********			Q	
6/10/04	001	Y	6/3/04	001	FLOW		0.0006		NL			**********		**********		**********			Q	
5/10/04	001	Y	5/12/04	001	FLOW		0.0006		NL			**********		**********		**********			Q	
2/10/04	001	Y	2/14/04	001	FLOW		0.0006		NL			**********		**********		**********			Q	
11/10/03	001	N	11/12/03	001	FLOW	.0001	0.0006	.0001	NL			**********		**********		**********		0	Q	
11/10/03	001	N	11/12/03	002	PH		**********		**********		7.3	6.0		**********	7.3	9.0		0	Q	
11/10/03	001	N	11/12/03	003	BOD5	.003	0.007	.003	0.010			**********	7	3.0	7	4.5		2	Q	
11/10/03	001	N	11/12/03	004	TSS	.003	0.007	.003	0.010			**********	6.8	3.0	6.8	4.5		2	Q	
11/10/03	001	N	11/12/03	007	DO		**********		**********		8.3	6.0		**********		**********		0	Q	
11/10/03	001	N	11/12/03	012	PHOSPHORUS, TOTAL (AS P)	.0003	0.0004	.0003	0.0006			**********	.84	0.18	.84	0.27			Q	
11/10/03	001	N	11/12/03	140	ENTEROCOCCI		**********		**********			**********		**********	<2	104		0	Q	
11/10/03	001	N	11/12/03	157	CL2, TOTAL CONTACT		**********		**********		1.9	1.0		**********		**********		0	Q	
11/10/03	001	N	11/12/03	165	CL2, INST RES MAX		**********		**********			**********	<QL	0.019	<QL	0.019		0	Q	
11/10/03	001	N	11/12/03	765	TKN, APR-OCT	.0007	0.002	.0007	0.006			**********	1.74	1.0	1.74	1.5		2	Q	
8/10/03	001	Y	4/15/03	001	FLOW		0.0006		NL			**********		**********		**********			A	
8/10/03	001	Y	8/11/03	001	FLOW		0.0006		NL			**********		**********		**********			Q	
8/10/03	001	Y	4/15/03	002	PH		**********		**********			6.0		**********		9.0			A	
8/10/03	001	Y	4/15/03	003	BOD5		7		10			**********		3.0		4.5			A	
8/10/03	001	Y	4/15/03	004	TSS		7		10			**********		3.0		4.5			A	

VA0073121 Schwartz Sewage Treatment Plant

Due	Outfall	NDI?	Rec'd	Par #	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Qty Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max	Conc Unit Lim	Ex	Freq	Comments
8/10/03	001	Y	4/15/03	007	DO		*********		*********			*6.0*		*********		*********			A	
8/10/03	001	Y	4/15/03	012	PHOSPHORUS, TOTAL (AS P)		*0.4*		*0.6*			*********		*0.18*		*0.27*			A	
8/10/03	001	Y	4/15/03	157	CL2, TOTAL CONTACT		*********		*********			*1.0*		*********		*********			A	
8/10/03	001	Y	4/15/03	165	CL2, INST RES MAX		*********		*********			*********		*********		*Nondetect*			A	
8/10/03	001	Y	4/15/03	305	AMMONIA, AS N NOV-MAR		*10*		*10*			*********		*4.3*		*4.3*			A	
4/10/01	001	Y	4/17/01	001	FLOW															

Facility = Schwartz STP
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 58
WLAc = 7.1 units are mg/l.
Q.L. = .2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 14.3254576632558
Average Weekly limit = 14.3254576632558
Average Monthly LImit = 14.3254576632558

The data are:

9

JCC
4/8/08

Attachment 10

Facility = Schwartz STP
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 19
WLAc = 11
Q.L. = 100
# samples/mo. = 1
# samples/wk. = 1

units are ug/L.

Summary of Statistics:

observations = 1
Expected Value = 200
Variance = 14400
C.V. = 0.6
97th percentile daily values = 486.683
97th percentile 4 day average = 332.758
97th percentile 30 day average= 241.210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 16.0883226245855
Average Weekly limit = 16.0883226245856
Average Monthly LImit = 16.0883226245856

The data are:

JCC
4/8/08

200

Attachment 10

Citizens may comment on the proposed reissuance of a permit that allows the release of treated domestic wastewater into a water body in Stafford County, Virginia

PUBLIC COMMENT PERIOD: XXX, 2008 to 5:00 p.m. on XXX, 2008

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater Owners or operators of municipal facilities that discharge or propose to discharge wastewater into the streams, rivers or bays of Virginia from a point source must apply for this permit. In general, point sources are fixed sources of pollution such as pipes, ditches or channels. The applicant must submit the application to the Department of Environmental Quality, under the authority of the State Water Control Board.

PURPOSE OF NOTICE: To invite the public to comment on the draft permit.

NAME, ADDRESS AND PERMIT NUMBER OF APPLICANT: Richard Schwartz
880 S. Pickett Street, Alexandria, VA 22304
VA0073121

NAME AND ADDRESS OF FACILITY: Schwartz STP
696 Marlborough Point Road, Stafford, VA 22554

Project description: Richard Schwartz has applied for a reissuance of a permit for Schwartz STP in Stafford County, Virginia. The applicant proposes to release treated sewage at a rate of 0.0006 Million Gallons per Day into the Potomac Creek in Stafford County that is in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The sludge will be disposed of at the Stafford County's Aquia AWT (VA0060968). The permit will limit the following pollutants to amounts that protect water quality: BOD_5, Total Suspended Solids, Total Phosphorus, TKN, Ammonia, Dissolved Oxygen, pH, Total Residual Chlorine, Dechlorination, and Enterococci.

How a decision is made: After public comments have been considered and addressed by the permit or other means, DEQ will make the final decision unless there is a public hearing. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the proposed permit. If there is a public hearing, the State Water Control Board will make the final decision.

HOW TO COMMENT: DEQ accepts comments by e-mail, fax or postal mail. All comments must be in writing and be received by DEQ during the comment period. The public also may request a public hearing.

WRITTEN COMMENTS MUST INCLUDE:
1. The names, mailing addresses and telephone numbers of the person commenting and of all people represented by the citizen.
2. If a public hearing is requested, the reason for holding a hearing, including associated concerns.
3. A brief, informal statement regarding the extent of the interest of the person commenting, including how the operation of the facility or activity affects the citizen.

TO REVIEW THE DRAFT PERMIT AND APPLICATION: The public may review the documents at the DEQ-Northern Virginia Regional Office every work day by appointment.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:
Name: Joan C. Crowther
Address: DEQ-Fredericksburg Satellite Office, 806 Westwood Office Park, Fredericksburg, VA 22401
Phone: (540) 899-4506 E-mail: jccrowther@deq.virginia.gov Fax: (540) 899-4647

Attachment 11

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Schwartz Sewage Treatment Plant
NPDES Permit Number:	VA0073121
Permit Writer Name:	Joan C. Crowther
Date:	April 21, 2008

Major [ ] **Minor** [X] **Industrial** [ ] **Municipal** [X]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?			X
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		X	X
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

Attachment 12

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			X
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
II.D. Water Quality-Based Effluent Limits – cont.	**Yes**	**No**	**N/A**
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			X
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?		X	

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance
Duty to mitigate	Monitoring and records	Transfers
Proper O & M	Signatory requirement	Monitoring reports
Permit actions	Bypass	Compliance schedules
	Upset	24-Hour reporting
		Other non-compliance

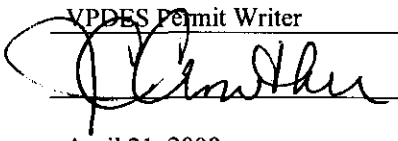
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?		X	

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name Joan C. Crowther

Title VPDES Permit Writer

Signature 

Date April 21, 2008